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4th World Ayurveda Congress & Arogya Expo

Focal theme AYURVEDA FOR ALL

9–13 December 2010, Bengaluru, Karnataka, India

ABSTRACTS

Abstracts of Selected Papers for Oral and Poster Presentation

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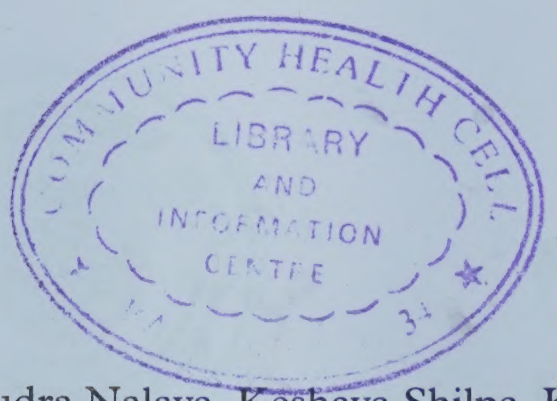
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FOREWORD

It is indeed a happy moment for me to present this publication to you. The reasons are many. The primary one being that of moving closer to our vision of bringing together the Ayurveda community under one roof and reinvent this cultural and scientific tradition and heritage of this country.

Started in 2002 as a mere event, the World Ayurveda Congress has gained momentum over the last eight years and, as you can see, it is more like a 'Movement' today. A strong, united 'Movement' led by the stakeholders with the backing of various governments – central and states. Even at this magnitude of the gathering and support that is seen today, I strongly feel that a lot more needs to be done to make this ancient Indian health science truly global in nature. For this to happen, the stakeholders – industry, Ayurveda practitioners (including traditional healers), R&D institutions, central and state governments, and so on – would need to continue to stand together in the years to come to overcome the challenges facing this sector. Vijnana Bharati, with support from governments, is fully committed to this sector and will keep the flame burning till it achieves its goal.

The 4th World Ayurveda Congress (WAC) witnesses a huge increase in participation from all stakeholders. The numbers speak for themselves: over 4000 delegates from within India; over 300 delegates from overseas representing 35 countries; receipt of about 1500 research papers in response to 'Call for Papers'; over 5 lakh people expected to visit the Arogya Expo; over 250 industry players putting up stalls in the Expo; and many more.

Coming to the 4th World Ayurveda Congress, the support from Department of AYUSH, Government of India, was overwhelming, like in previous years. Worth mentioning is the tremendous support that we received from the Government of Karnataka. The National Institute of Mental Health and Neuro Sciences, Bangalore, needs special mention for their support. The industry, embassies, overseas partners, hundreds of volunteers, participants of this Congress and the previous ones, WHO, and several others chipped in with their own unique contributions to make the 4th World Ayurveda Congress and Arogya Expo 2010 a true success.

I wish all the very best to all of you.

A Jayakumar
Secretary-General
Vijnana Bharati

PREFACE

As the 4th World Ayurveda Congress (WAC) and Arogya Expo 2010 unfolds in Bengaluru, one thing becomes very clear -- the ever-growing nature of this platform that accommodates everyone associated with Ayurveda. This all-inclusive approach adopted right from the beginning is what makes the World Ayurveda Congress and Arogya Expo a unique event. The vision and leadership shown by Vijnana Bharati in this regard is commendable. The policy initiatives and moral, technical, and financial support provided by the Department of AYUSH, Government of India, and the host-state governments made this event scale up in terms of its reach – both commerce and outreach. In this regard, the Government of Karnataka, the host-state for the 4th WAC and Arogya Expo 2010, came out wholeheartedly to support this event. The contribution of industry, industry associations, international partners and collaborators, media, and several other also chipped in positively.

As regards the 4th WAC and Arogya Expo 2010, this publication attains significance not only for its intrinsic value but also for the efforts of delegates and several dedicated individuals in the several committees of WAC, especially the Scientific Committee. Ten senior faculty evaluated over 1450 abstracts in about 2 months. It was further evaluated by the Academic Committee. The final selection of 'abstracts' – categorised into Oral, Poster, and CD presentations – is what you are holding in your hands right now. This publication carries over 250 abstracts in the Oral Presentation section and over 200 abstracts in the Poster Presentation section. In addition to abstracts of Oral and Poster sections, the CD will carry about another 150 abstracts.

I sincerely acknowledge the contributions of each and every author, including those whose abstracts do not figure in this publication.

'Ayurveda for All' is the focal theme of the 4th WAC. Let us make it happen in every sense.

Wish you all the very best.

G Geetha Krishnan
Organising Secretary
4th WAC and Arogya Expo 2010

SECTION A
Abstracts selected for oral presentation

Contribution of Traditional Medicine in Cancer Management

C Sobhana[1], Jai Nair[2], Tharalakshmi[3], and Kulkarni Parag Umakant[4*]

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Cancer is one of the most dreaded diseases of the 20th century and spreading further with continuance and increasing incidence in 21st century. An integrated approach is needed to manage cancer using the growing body of knowledge gained through scientific developments. Thousands of herbal and traditional compounds are being screened worldwide to validate their use as anticancerous drugs. Ayurvedic *samhitas* did not exposit cancer, but acharyas explained some diseases such as *Garanthi*, *Arbuda*, and *Apachi* which represent cancer-like symptoms. Same diseases are key out while explaining the *Jamgham Visha lakshana*. In view of that, there must be some relation between symptoms of cancer and *Visha lakshana* mentioned in classical texts. For that reason, *Visha chikithsa* can be useful while dealing with the cancer, especially *Dashapushpa* the most popular medicine of *Visha chikitsa* at Kerala. *Dashapushpa* has been used by traditional *vaidyas* of Kerala in *Mushaka Visha chikitsa*, which shown promising outputs while tackling with different types of cancer. Hence, an attempt is made in this paper to draw the attention of Ayurvedic research institutes and scholars to the *Dashpushpa*, to comprehend the role of *Dashpushpa* in cancer management. **[PA-12]**

Keywords: *Dashapushpa; Visha chikitsa*; cancer management

A Study of Kokilaksha (*Asteracantha longifolia*) w.s.r. to its Role in the Management of Carcinoma of Gall Bladder

K N Dwivedi, Bhawana Mehra, Yojna Shrivastava, and P S Pandey

Primary carcinoma of gall bladder is the commonest biliary malignancy and third common cancer of GIT in eastern U.P. and Bihar. This study is concerned with the study of Kokilaksha (*Asteracantha longifolia*) with special reference to its role in management of carcinoma of gall bladder. Being potent Kapha vata shamaka, Ashmarinashak, Balya, Vrishya, and Udararogahara with Tikshna, Pachana, Shodhana, Ropana, and Darana properties of kshara, it is rational to use kshara form of Kokilaksha (*Asteracantha longifolia*) in carcinoma of gall bladder. This study was performed on 40 diagnosed patients with carcinoma of gallbladder randomly dividing in two groups A and B. Group A was kept on conservative treatment and group B treated with trial drug along with conservative treatment. Patients of group B showed encouraging results in terms of improvement in subjective and objective parameters. **[PA-478]**

Keywords: gall bladder; cancer; Kokilaksha

New Immuno-endocrinological Trends in Managing Cancer

Madhav Diggavi
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The paper studies personalized multi-organ failure management and anticancer nuclear isotope Rasayanas based on immuno-metabolic status. Is that the immunological and tumour endocrine toxicity can be well treated if specific drug designing is main. Both prospective and retrospective single-blinded, uncontrolled and personally designed herbomineral metallic coded Rasayana medicines given internally as single intervention. Patients with secondary metastasis in lymph nodes responded well and was able to observe the mets. Primary hepatic tumour with secondaries in the liver was observed. Thyroid tumours, ovarian tumours, ocular tumours, and CA rectum also showed disappearance of mass and bioclinical normalcy. Secondaries in brain, lungs and spine cases showed significant response. Drug designing, interpretation of investigations, tumour management strategies and outcome will be presented in full text. **[PA-970]**

Keywords: CDH; cancer; AIDS

Treatment of Cancer in Ayurveda

George Eassey, OMD

The present paper summarises the author's observations made on the usefulnes of certain selected Ayurvedic formulations and single herbs in cases of various stages and types of cancer. The author's aim is also to expound the causative factors of cancer and relation of various diseases such as Sopha, Grandi, Arbuda, Apaci, Galagandha, Nadivrana, Vidradhi, Gulma, Vatarakta and Kusta to the pathology of cancer. The role of the Tridosa and the concepts of agnimandya and dhatu dusti (weakness) is explained. The Prakruti disposition and dhatu involvement in development of cancer is shown. Vikalpa Samprapti (analysis of abnormal symptoms and signs and identification of the different factors responsible for producing the symptoms) will be discussed in relation to cancer formation. Classification of Arbuda according to clinical signs and symptoms and prognosis is given. The observations of patients treated by the author in an outpatient clinic utilizing both Ayurvedic and allopathic control parameters suggests that certain herbal combinations possess significant degree of tissue protective role in terms of anticancerous effect. It should be well emphasized that the used Ayurvedic medicines are of 'Rasayana' type remedies, which act on the nutrition dynamics, act as a tissue protectives and promote agni and Ojas status, without having any unwanted side effects. Special emphasis is laid on psychological aspects of the treatment. Certain specific mental and psychological features commonly shared by those who respond positively to the treatment are discussed.

Keywords: causatine factors; Vikalpa Samprapti

Clinical Evaluation of Shodhan (Vaman–Virechan) and Shaman Therapy (Special by Bharngi Sharkara) in Tamak Shwasa

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Bronchial asthma is one of the distressing diseases and is quite common across the world in all the socioeconomic strata irrespective of age. India is a developing country and has been showing an increase in the incidence of this ailment for the past few decades, especially in the urban area due to pollutants, allergens, and changing environmental conditions and is recognized to be a major cause of morbidity and mortality. As per Ayurveda, when the prana vayu is not performing its normal physiological functions (vitiated) and become viguna, obstructed by kapha and moves upward, that is, unable to function properly, then the condition is known as Shwasa Roga. The clinical trial was carried out in 30 patients who were divided into groups A, B, and C, respectively, treated by Bharangi Sharkara, Vaman–Virechana Karma, and Bharangi Sharkara associated with Vaman–Virechana Karma. On statistical analysis, the data showed significant improvement in clinical manifestations and laboratory investigations after the therapy. The patients of group A showed mild relief (53.6%) in their symptoms after the course of therapy. There was a moderate improvement (69.16%) in the patients of group B. The best results (84.6%) were obtained in the patients of group C. There was variable statistically significant improvement in various laboratory investigations after the therapy in all the patients. No side (toxic) effects were observed in any patient during the course of treatment. **[PA-3]**

Keywords: Tamaka Swasa; Bharangi Sharkara; bronchial asthma; Vaman; Virechanam

Evaluation of Patients with Suicidal Ideation and Effect of Shirodhara and Satvavajaya (Psychotherapy)

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Suicide means overall defeat of society. In last 20 years, nearly 130 000 persons committed suicide in India as reported by government gazettes. In every 40 min, one person commits suicide. But many suicides can be prevented if the warning signs are recognized and proper action is taken. The causes and warning signs of suicides are not specifically

determined. Nobody knows the actual vulnerable point of a depressive patient. Not much study has been carried out in Ayurvedic continuum. This paper tries to understand the warning signs of suicide through situational, behavioral, emotional, and verbal profile, as well as study the effect of Shirodhara and Satvavajaya. Forty-eight patients with moderate-to-severe depressive illness with suicidal ideation have been evaluated through *Manasika satva determination, Beck depression inventory, presumptive stressful life events, and lethality of suicide rating scale*. Suicidal risks are mostly found in according to: (1) Manasika satva: Tama-rajasika; (2) Sex: female; (3) Age group: 20–30 years then 30–40 years; (4) Religion: Hindu; (5) Habitat: rural; (6) Occupation: housewives, then students; (7) Economic status: lower middle class; (8) Educational level: up to school level; (8) Family: joint family. Suicidal ideation may be found even in mild-to-moderate form of depression; 7–15 sittings of shirodhara and 8–16 sittings of satvavajaya have been introduced to the patients. The outcome was very encouraging. **[PA-20]**

Keywords: suicidal ideation; depression; vulnerable point; risk factors; shirodhara; satvavajaya

Assessment of Manasika Bhavas in the Aetiopathogenesis and Management of Adhimantha

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The prevalence rate for all mental disorders was observed as 65.4 per thousand population, and for eye disorders due to emotional factors in general is 60–100/1000 population. This study may help in finding the relationship between the emotional factors and eye disorders. The objective of this study was on the basis that Adhimantha is Sarvagata Netra Vyadhi. No particular studies have been carried out earlier to see the role of Manasika Bhavas in causation of Adhimantha in Ayurveda research field. However, it is very clear that the involvement of Manasika Bhavas is very dominant in Adhimantha. Hence, clinicians in psychiatry and ophthalmology must make proper evaluation of Manasika Bhavas in aetiopathogenesis of Adhimantha and initiate treatment. A total of 202 patients of Adhimantha were treated in three groups. Twenty patients of JMA group were treated with Jathimukuladi Anjana twice daily for 30 days; 20 patients of SPC group were treated with Shankhapushpi Choorna 5 g BID with luke warm milk for 30 days and 20 patients of COM group were treated with both the medicines for 30 days. Comparison of the results of the three groups showed that a combination of Jathimukuladi Anjana and Shankhapushpi Choorna can be best used in the treatment of Adhimantha. **[PA-89]**

Keywords: Adhimantha; Jathimukuladi Anjana; Shankhapushpi Choorna

Ayurveda for Autism: the SuPrA Approach

Vaidya M Prasad

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We have developed a new clinical protocol for the treatment of autism and related speech/learning disorders based on the fundamental concepts of Ojas and Thejus (Agni) discussed in classical Ayurvedic texts such as Ashtanga Hridaya and Charaka Samhita. This protocol, named *Sunethri Protocol for Autism (SuPrA)*, links the brain and gut from a classical Ayurvedic perspective and has been developed using the logic and methods successfully followed during the past 8 years of my clinical experience in treating autistic children. SuPrA works by setting right an imbalanced Ojas–Agni axis and is being presented at a scientific/public forum for the first time here. It consists of three vital phases: Phase I involves balancing the Agni of the child, followed by Phase II to achieve Dhatu Shuddhi; Phase III is to enhance the Ojas of the patient. We have observed remarkable results using this protocol in designing personalized treatment regimes for each of our patients, and have been able to help over 125 children and their families to fight autism. Prognosis is especially good for younger patients and for those in the milder range of the autism spectrum. **[PA-136]**

Keywords: Ojas; Thejus; Ashtanga Hridaya; Charaka Samhita

Role of Ayurveda (Science of Life) in the Management of Cancer Complication

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Cancer has a reputation for being a deadly disease, which may affect people at all ages, even fetuses. Some types of cancer have a better prognosis than nonmalignant diseases such as heart failure and stroke, but risk increases with age and also complications, type of cancer, as well as the stage, or extent of the disease, and so on. Ayurveda, the Science of Life, offeres a unique holistic management of cancer (Arbuda). It may be considered as alternative and complementary to conventional medicine in the circumstances of risks, costs, or potential side effects of many conventional treatments, or in the limited prospect for cure or as a last resort. However, it is difficult to convince the effectiveness of Ayurveda therapies in the treatment of cancer but the therapies have been found to be very useful in reducing pain, nausea, vomiting, diarrhea, hemorrhage, and other signs, symptoms, and complications in cancer patients. The control of the symptoms and complications of cancer is not considered as a treatment of the cancer, but it is an important determinant of the quality of life of cancer patients and plays an important role in the decision whether the patient is able

to undergo other treatments. Hence, a multidisciplinary approach has to be developed for the better management of cancer patients, and the paper discusses the same. **[PA-170]**

Keywords: cancer; Ayurveda; Arbuda

Effectiveness of Jalaukavcharan (Leech Therapy) in Osteoarthritis of Knee Joint

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Osteoarthritis (OA) is a most degenerative disease affecting weight-bearing joints, often described as 'Wear and tear Arthritis'. There is a steady rise in the overall prevalence of disability from OA in elderly individuals from age 30 to 65 years; 80% of people have radiographic evidence of OA. Traditionally, leeches were used successfully for various diseases in our country from centuries. Saliva of leech contains various compounds having analgesic and anaesthetic properties. We even hypothecate that besides pain killing action, Jalauka also enhances microcirculations and helps in regeneration of cartilage. Thirty patients with diagnosed OA were selected and two Jalaukas (leeches) were applied at 1-week interval. This paper discusses the results with statistical analysis. **[PA-413]**

Keywords: osteoarthritis; Sandhigatavata; Jalauka; Vedanasthapan

Ayurvedic Approach towards Interstitial Lung Diseases

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This paper attempts to study (1) the possibility of reduction in steroid dependency by *Rasayana* and (2) the efficacy of *Shwasghna Chikitsa* in interstitial lung diseases (ILDs). ILDs are often associated with considerable morbidity and mortality and they represent a large number of conditions involving lung parenchyma. ILDs can be considered as a functional and structural damage of *Pranvaha Strotasa*. *Pranvahanam Shwasiki Kriyam* (Ch.Su 28) is the basic concept of *Pranvaha Strotodushti Chikitsa*. This paper discusses in detail the therapy used in treating ILDs. The major goal of modern treatment is early identification and aggressive suppression of the acute and chronic inflammatory process. However, this trial is done with the following aims: (1) whether we can arrest further structural damage and (2) to improve respiratory functioning, without any side effects. The clinical trial showed significant improvement in oxygen saturation, peak expiratory flow rate, symptomatic relief, and reduction in steroid dependency. **[PA-450]**

Keywords: ILDs; *Pranvahanam Shwasiki Kriyam; Rasayana*

Measuring the Tridosha Symptoms of Unmāda (Psychosis): a Preliminary Study

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This paper presentsa preliminary report on the development of a scale to measure the symptoms of unmāda (psychosis) attributable to tridosha (metabolic principles) using the concepts of Āyurvedic medicine. The 67-item unmāda specific symptom scale was developed on the basis of translation of Sanskrit verses describing *vātaja* (V), *pittaja* (P) and *kaphaja* (K) *unmāda* (specific symptoms of psychosis due to the imbalances of metabolic components) and by taking the opinions of experts (15 Āyurveda experts, 5 psychiatrists and 5 psychologists). The scale was administered by an unblinded assessor to 30 consecutive patients with non-affective psychotic disorders. The unmāda specific symptom scale was associated with excellent internal consistency. The Cronbach's alpha for V, P and K scales were 0.98, 0.98 and 0.97, respectively. The split-half reliability for V, P and K scales were 0.97, 0.97 and 0.88, respectively. Scores on *vātaja, pittaja* and *kaphaja* scales were inversely correlated, suggesting that they are mutually exclusive. The three subgroups of psychoses – paranoid schizophrenia, schizophrenia (unspecified) and unspecified nonorganic psychosis – had significantly different loadings on the three scores, having high scores on vātaja, pittaja and kaphaja, respectively. The paper concludes that the tridoshas in psychotic disorders can be measured reliably by this instrument. The scores on each of these doṣas help in differentiating three types of psychosis (according to Āyurveda) that have good correspondence with prevailing classification. **[PA-533]**

Keywords: tridosha; unmāda; psychosis; v*ā*ta; pitta; kapha

Efficacy of Medicated Plaster along with the Traditional Decoction, Yogaraja Guggulu and Nirgundi Arka with Rasnadhi Kwatha Mixture in the Management of Cervical Spondylosis

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The present study was conducted to evaluate the effect of medicated compound in the management of cervical spondylosis. Fifty case records of patients with complaints of long-term stiffness and pain in neck, shoulder, arm and chest, tingling and pinprick sensations in arms, hands, fingers, numbness and weakness in arms, hands, fingers, difficulty in walking, loss of bladder or bowel control were randomly selected. The selected treatment procedure included the internal administration of traditional Āyurvedic decoction (lasun, shunti, kulatta, granthi, masha, mega, sauvarchala, bala, bilva, agnimatha, siyonaka, vacha) 120 ml with thila thaila 10 ml at 06:00 h and 18:00 h, two pills (250 mg) of Yogaraja guggulu with 30 ml luke warm water at 10:00 h and 16:00 h, Nirgundi arka 10 ml with Rasnadi kwath 10 ml after meal and the external medicated plaster consisted of Lakshadhi lepa mixed with Mahanarayan oil as sufficient quantity for 10 consecutive days. The effect of treatment procedure was evaluated on the basis of the data of clinical examination. The severity of the selected symptoms and signs was graded according to the 5-point scale. Statistical analysis was done using MINITAB software application. All values are expressed as the mean ± SEM, and significance was considered at 95% confidence level. **[PA-557]**

Keywords: cervical spondylosis; traditional Ayurvedic compound; medicated plaster

A Clinical Study on the Role of Bhallathaka Ghrita in the Management of Alzheimer's Disease

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Among the subtypes of dementia, Alzheimer's disease (AD) is a condition that hampers the day-to-day activities of an individual. The number of people affected with AD is growing at an alarming rate, and the increasing financial and personal costs will have a devastating effect on the world's economy, healthcare systems and family. This study tries to understand the role of bhallathaka ghrita in the management of AD. It also tries to find out if bhallathaka ghrita causes any significant change in the scores of Mini Mental Status Examination Scale (MMSE) and Alzheimer's Disease Assessment Scale (ADAS). The study was conducted in two different settings with the allocation of participants satisfying eligibility criteria in two groups with 10 participants in each. For the treatment group, bhallathaka ghrita was administered for a period of 2 months, and for the control group existing allopathic treatment was given. As the settings were different for treatment and control groups, randomisation was not done. The assessment of both groups was done before treatment, after treatment and after a follow up of 1 month using MMSE, ADAS, Activities of Daily Living (ADL), and Instrumental Activities of Daily Living (IADL). Bhallathaka ghrita made no significant change in the scores of MMSE and ADAS ($P > 0.05$).

However, a tendency for the test to become significant was observed on ADAS, which is to be appreciated. Bhallathaka ghrita is mentioned in rasayana prakarana, which itself conveys that it can enhance the quality of dhatu. Apart from this, medhya guna of bhallathaka may be acting at the cognitive level. Samprapthi of the disease is explained to be progressing in two directions – cognitive level and vegetative level. Even the drug acts at both these levels thereby making the samprapthi vighatana. **[PA-650]**

Keywords: Alzheimer's disease; bhallathaka ghrita

A Study on Autism and the Role of Mahāpaiśācika Ghŕta in its management

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Autism is one of the most debilitating neuro-developmental disorders affecting the paediatric population. This disorder carries significant public health implication and eyes are upon Āyurvedic fraternity hoping for a tangible solution. The main objective of the study was to understand autism from Āyurvedic parlance, to evaluate the efficacy of Mahāpaiśācika ghŕta in its management and to compare its efficacy with behaviour therapy. The study was designed as a comparative control trial. Ten subjects satisfying the diagnostic criteria of DSM-IV were selected, and 5 ml of trial drug BD was given for 2 months along with behaviour therapy. Similarly, 10 subjects were selected and behaviour therapy alone was given for a period of 2 months. Assessments were done before treatment, after 2 months of treatment and a follow up of 15 days using CARS. The trail group produced highly significant results in reducing symptoms of autism. During follow-up period, there was increase in results. Control group also gave highly significant result which during follow-up period got reduced. Comparison between the groups after treatment showed significant result favouring trial group. **[PA-719]**

Keywords: autism; mahāpaiśācika ghŕta; DSM-IV

Geriatric Problems and Yoga

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The Sanskrit word for old age is Jara. The word Jara is derived from the root 'Jri', which means to decay. Janam and mrityu is a rule of nature and it is a universal truth. Aging process starts from the day we are born and goes on ceaselessly until death. It is numbered as the fourth state of life. It is difficult to demarcate the beginning of old age because old age is more chronological than biological. Various factors are responsible both for delaying and expediting the process of old age. Persons leading an unrestricted, indisciplined, and

irregular life are susceptible to early old age. Advancement of age usually creates numerous problems in the individual. Geriatric problems may be mainly divided into four categories: physical, psychological, emotional, and social. Old age problems are best confronted by preventive measures than curative ones. Although there are varieties of preventive and curative treatments for the old age yet the yogic practices are unfailingly effective if adhered to with sincerity and regularity. Practising of Surya Namaskar, Shavasana, Pranayama, Shavasan, Shatkriyas, Mudras and Ashtang yoga are very helpful in the management of psychological and psychosomatic disorders and respiratory and cardiovascular disorders. **[PA-726]**

Keywords: geriatric problems; yoga; old age

Evaluation of Anti-allergic Effect of an Indigenous Compound in the Management of Bronchial Asthma

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Bronchial asthma is one of the distressing diseases and is quite common in all the socio-economic strata in all age groups, and distributed all over the world. Pollutants, allergens and changing environmental conditions are the major causative factors. No doubt considerable research work has been done in this regard, but still there are lacunae in the successful management of this disease. Keeping the above view in mind, the need for developing a comprehensive remedy with least side effects, economic and easily available pure herbal preparations is highly felt. One such indigenous formulation was prepared consisting of Shirish (*Albizia lebbeck Benth*) and Guduchi [*Tinospora cordifolia* (Willd.) Meirs] for the management of bronchial asthma. The selection of the drugs was done on the basis of their authentic background of traditional use, reliable classical references and also considering their action on respiratory system. The main objective of the study was to evaluate the anti-allergic effect of the compound drug in the management of bronchial asthma. An open clinical trial of the drug was conducted on 30 patients at Government Ayurvedic College and Hospital, Guwahati, Assam, for a period of 45 days. The compound was found to be very effective. **[PA-731]**

Keywords: allergy; immunity; bronchial asthma; shirish; guduchi

A Clinical Study to Evaluate the Efficacy of Dwipanchamula Niruha Basti in Pakshaghata

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Pakshaghata is one among the vatavyadhi considered as asta mahagada, which is mentioned by our Acharyas. Pakshaghata may be correlated with the stroke phenomena, where in either left or right side of the body loses its functions in different degrees. Paralysis is the total loss of voluntary motor function resulting from severe cortical or pyramidal tract damage and degenerative neuromuscular diseases. Basti is considered as prime line of management in case of tridosha, sapta dhatu, and avarana-like conditions. Brihatraye's suggestive of 12 prasruta is total and maximum quantity of niruha basti. Niruha basti is considered as one of the major treatments for pakshaghata, in which it is capable of eliminating doshas from the body and it sustains life, dosha, dhatu and mala. Basti has got multidimensional therapeutic effect as brihamana, shodhana, and samana. **[PA-780]**

Keywords: pakshaghata; dwipanchamula niruha basti; stroke

Effect of Ooshakadi Lekhana Basti in Hyperlipidemia

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Disorders of lipid metabolism are reported as 30%–40% with increased prevalence. Hyperlipidemia is co-related with Medo-pradoshaja vikara—a condition caused by derangement of agni, leading to ama-annarasa. This ama-annarasa with madhura bhavadikya forms excess meda directly from rasa dhatu avoiding rakta, mamsa dhatu formation (Dhatu dvayamatikramya) and circulates in blood. This stage is compared with hyperlipidemia where excess lipids are present in circulation. Ooshakadi lekhana basti dravyas posses qualities opposite to meda dhatu. Tikshna and tejo guna increase the jatharagni leading to proper metabolism of snigdhamsha meda, ruksha guna does lekhana and chedana karma ultimately decreases the circulating meda that results in lowered lipid levels of blood. In this regard, I made a sincere attempt to evaluate the effect of Ooshakadi lekhana basti in the management of medo pradoshaja vikara w.s.r hyperlipidemia. It was a single blind, controlled trial with pre-test and post-test designs including three groups (each 15 patients): (1) Ooshakadi Lekhana Basti Group A (hyperlipidemia with obesity); (2) Group B (hyperlipidemia); and (3) Atrovastin (Group C).Ooshaka, considering as ksharamrutika, was prepared by collecting various samples and chemically found highly alkaline in analysis. Average mean reduction in lipids and weight are found statistically significant in experimental groups compared with control group. But HDL was found increased only in experimental groups. Average reduction in weight is 3 kg in Group A and 2 kg in Group B with statistical significance. Further lowering of lipid levels was observed in the follow-up period. This study validated that Ooshakadi Lekhana Basti is highly effective in hyperlipidemia and also in obesity. **[PA-783]**

Keywords: hyperlipidemia; Medo pradoshaja Vikara; Ooshakadi lekhana basti; Ooshaka

An Effective Solution to Soring Ulcers

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Ulcerations of variant etiology arising from causative factors such as injuries, hemorrhagic lesions, skin lesions, and systemic diseases such as diabetes, malnutrition, tissues damage, and stomatitis have often challenged medical practitioners warranting a comprehensive and effective medication. The present study outlines the pharmacological status and antibacterial activity of Jatyadi Ghrita, a polyherbal Ayurvedic drug. Differential combinations of Jatyadi Ghrita 1 and 2 were analysed for their antibacterial activity and compared with Povidone Iodine by testing them against potent skin pathogens such as *Staphylococcus aureus, S. epidermis, Streptococcus pneumoniae, Streptococcus pyogenes, Pseudomonas aeruginosa, Corynebacterium ulcerans,* and *Propionibacterium acnes*. The drug tested for the bacterial susceptibility test included MIC, MBC, Break points, and serum bactericidal activity level. The studies vividly indicated the drug's efficacy of bactericidal activity against the pathogens, wherein marked reduction in growth and zone formations were observed. Pathological studies using laboratory test animals towards skin ulcerations and subsequent tissue development with accelerated growth of epidermal layers against Jatyadi Ghrita were studied. Administration of Jatyadi Ghrita reduced and prevented the growth cum proliferation of bacterial skin infections/ulcerations and was much better than Povidone Iodine. It is extrapolated and fortified from the analysis that Jatyadi Ghrita has excellent antibacterial potentials, and the drug could be advocated for applications in topical soring ulcerations. **[PA-846]**

Keywords: Jatyadi Ghrita; topical medication; ulcers

Effect of Ayurveda Therapies on Motor Recovery in Pakshaghata

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Pakshaghata is associated with vatadushti leading to loss of sensory-motor functions. This study was designed to assess the effect of Ayurveda treatment on motor recovery in patients of pakshaghata. Fifty patients (10 women and 40 men, mean age = 39.26 ± 9.88 years) of pakshaghata were recruited within 1 month of ictus. All patients received standard allopathic medications as advised by neurologist and were randomised to receive either conventional physiotherapy (Group I) or Ayurveda treatment (Group II) consisting of Abhyanga with Niramisha mahamasha taila and Bhashpasweda, Matrabasti with Balashwagandhadi taila and oral medicines of Ashtavargakashaya and Ksheerabalataila 101 for 14 days. Clinical parameters assessed were Modified Rankin Score (MRS), National Institute of Health Stroke Scale (NIHSS), Barthel Index (BI) and Pakshaghata Rating Scale (PRS). PRS was developed based on the symptomatology of pakshaghata as detailed in the Ayurvedic texts, and its validity and reliability were established. Results were analysed by repeated measures of analysis of variance. Patients receiving Ayurveda treatment showed statistically significant improvement in all the clinical variables measured. The improvement was comparable with conventional treatment. The paper concludes that Ayurveda treatment used in the present study is beneficial in enhancing motor recovery in pakshaghata. **[PA-909]**

Keywords: Ayurveda; pakshaghata (stroke)

A Clinical Study of Penta-Herbal Formulation in the Management of Ashmari (Urolithiasis)

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Ashmari-kidney stone formation is a complex process that is a consequence of an imbalance between promoters and inhibitors in the kidneys. Present clinical study evaluates the efficacy of Penta-herbal formulation in the management of ashmari (urolithiasis). In the present trial, Penta-herbal formulation which is made up of varuna, pashanbhed, bumyamalaki, gokshura and kulatha was assessed to see reduction and/or expulsion of urinary calculi. In this prospective randomized, single-blind, placebo control trial, total of 200 patients with symptomatic ureteral stones, 10 mm or smaller in size, were randomly allocated into groups 1 and 2. There were no significant differences between the groups in terms of age, stone size and location. All patients were evaluated either by X-ray KUB or USG KUB for 3 months. Group 1 received Penta-herbal formulation and group 2 received placebo. Results showed that the values were greater in the controls, and the difference was statistically significant. The paper concludes that Ayurvedic medicine is promising as regards its role in stone prevention. It was observed that the Penta-herbal formulation has provided highly significant statistics in renal calculi. It helps to dissolve renal calculi and facilitate their passage. **[PA-983]**

Keywords: ashmari; urolithiasis; Penta-herbal formulation

Management of Amavata (Rheumatoid Arthritis: an Autoimmune Disorder) with Certain Indigenous Regimen

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Amavata [rheumatoid arthritis (RA)] is known to be a crippling disease and second most common cause of disability, which leaves a person in a pitiful condition. Treatment plans suggested so far are not able to eliminate the disease. Ayurvedic treatment regimen seems to have vast potential. A total of 24 patients of known RA fulfilling the criteria, adopted by 'American Rheumatism Association' (1988) were treated in two groups, namely 'Group A' and 'Group B', each group having 12 patients. Group A were intervened with 'Eranda Taila', 'Dashmula Amritadi Kvatha', 'Chitrakadi compound' and 'Hinsradi lepa', and Group B with the same regimen of Group A except Eranda Taila. Sign and Symptoms-noticed were Sandhi Shula, Sandhi Shotha, Stabdhta (morning stiffness), Limitation of joint movement, muscle weakness, tenderness, Jwara, Agnimandy, Angmarda, Koshthabaddhata, RA factor and haemogram. Group A regimen provided highly significant improvement in Sandhishula, Sandhishotha, tenderness, Agnimandhya, Angmarda, Koshtabaddhata ($P < 0.001$) and significant results in Stabdhta (morning stiffness), limitation of joint movement, Jwara, Nidra Viparyaya, muscle weakness ($P < 0.01$). Whereas Group B facilitated highly significant improvement in Sandhi Shula, Agnimandhya, Angmarda, Koshtabaddhata ($P < 0.001$) and significant improvement in Sandhi Shotha, Stabdhta (morning stiffness), muscle weakness, tenderness and Jwara. **[PA-1123]**

Keywords: amavata; rheumatoid arthritis; muscle weakness

A Retrospective Study on Eka Kushtam (Psoriasis)

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Eka kushtam is a very common psychosomatic skin disorder and is of prime concern due to its chronic and relapsing nature. We compare and consider psoriasis as Eka kushtam for the treatment purpose. The incidence is estimated at about 2% of the world's population. The retrospective cohort study was done among the inpatients of the Government Ayurveda College Hospital, Tripunithura, Kerala, for the period from 1 April 2007 to 30 June 2010. A total of 96 patients were admitted and medically managed as inpatients, of which 71 were men and 25 were women. It comes as 74% men and 26% women, showing a ratio of 3:1. An analysis of the economic status also showed that 49% were in the low income group, i.e. below Rs 500 per month. Mean age of onset of the disease is estimated globally at 28 years, but our study showed that it falls in the age group of 41–50 years. On an average, each patient had undergone inpatient treatment for 40 days. Our treatment modality comprised 'Snehapana, Sodhana and Thakra dhara' for 7 days each—altogether a total of

21 days. Our findings seem to be satisfactory as the annoying symptoms such as scaling and itching considerably reduced by the time of discharge. Also, number of relapse was digital among the total 96 cases, i.e. only eight cases reported. Even though the study is still continuing, our treatment modalities are hopefully well and good. **[PA-1194]**

Keywords: Eka kushtam; psychosomatic skin disorder; psoriasis

A Practical Study of Raktamokshana in Vatarakta

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The treatment of vatarakta is a difficult job seen in clinical practice. Generally its recurrence occurs mostly kasth and rasaushadi plays an important role throughout treatment at some extent. Through this paper, I want to share the magical results of raktamokshana in vatarakta which I have experienced in my last 6 years of clinical practice. The symptoms observed in vatarakta are pain and burning sensation at affected joints. The study concludes with statistical information that with the help of Raktmokshan, Vata rakta can be cured rapidly. **[PA-1195]**

Keywords: vatarakta; raktmokshan kriya; snehan swedan

Clinical Evaluation of Ayurvedic Program on Muscular Dystrophy: 55 patients

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Neuro-muscular disorders are a formidable challenge to practitioners and patients usually considered incurable. Genetic and acquired neuro-muscular diseases represent a major cause of mortality and morbidity in children and adults with a prevalence of more than 5% in the general population. Clinical evaluation involving Rasayana-based Ayurvedic herbs along with Til-Mash panda swedana; Shat-Bala Prasarani Anuvasana Vasti and Yogic support yielded mixed results in 55 boys with 28 Duchenne Muscular dystrophy (DMD); 19 with Beckers Muscular Dystrophy (BMD) and 8 boys with Limb Girdle Muscular Dystrophy (LGMD). Although this Ayurvedic programme did not have the hope for the genetic effect of restoring dystrophin production, it did reduce serum CK levels. This could be a sign of decreased muscle damage. As there was definite improvement in functional ability, it is possible that complementary Ayurvedic treatment allows longer survival with minimum disability. **[PA-1216]**

Keywords: neuro-muscular disease; muscular dystrophy; Mamsagni Rasayana; DMD; BMD; LGMD

Advocacy of Ayurveda in Epidemic Diseases

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Modern transportation allows people, animals, plants and the pathogens to travel more easily than ever before. Because of this global interconnectedness through transportation, tourism and trade, infectious diseases emerge more frequently and when infectious diseases are spreading through human populations across a large region or even worldwide then it is known as epidemic. The reference of micro-organisms is available in the oldest manuscripts of Ayurveda and Vedas as well. In Atharva Veda, plenty of references are available regarding microbes and infectious diseases. Even with the availability of powerful antibiotics, epidemics are unmanageable and preventive measures like limitation of spread by isolation and strengthening the immune system are key points. In this context, various techniques have been described in Ayurvedic classics for prevention at environmental and individual levels. Ayurveda also offers some potential single and compound herbal preparations for the management of epidemic diseases such as recent outbreak of Swine flu. **[PA-1258]**

Keywords: micro-organisms; epidemic; Atharva Veda; Swine flu

Panchakarma Therapy: a Panacea for Chronic Diseases

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In Ayurveda, *Panchakarma* therapy is considered a complete, holistic approach to the elimination of the root cause of each and every chronic disease. Today, in USA, 70% of deaths are due to chronic diseases, not infectious diseases. *Acharya Charaka* has described that imbalances in doshas can be pacified by Shamana therapies (palliation methods) such as administration of herbo-mineral supplements, lifestyle changes, adopting fasting, etc., but deep rooted imbalances in doshas can be completely eliminated by the administration of *Shodhana* therapies (purification methods), such as *Panchakarma*, including *Vamana, Virechana, Niruha Basti, Anuvasana Basti* and *Nasya*. Chronic diseases – such as heart disease, stroke, cancer, diabetes, and arthritis – are among the most common, costly, and preventable of all health problems in the US and are also the leading causes of death and disability in the US. Panchakarma therapies detoxify, strenghten tissues, and enliven cells' inner intelligence to facilitate self-healing to help eliminate chronic diseases and promote longevity.

A Comparative Clinical Study with Vamana and Astanga Lavana in the Management of Madatyaya

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Madatyaya/alcohol dependency is exponentially increasing with extensive legal, social, moral and ethical consequences all over the world, irrespective of cultural, geographical, educational, and economic differences. This alcohol abuse interferes with health, social relationships, economic stability, which affects other areas in terms of illness, disability, decreased productivity, accident, crime, psychological hardship and lastly death in all classes of society. For safer resolution of withdrawal state, the present study with Vamana and Astangalavana was carried out. A total of 40 diagnosed patients of Madatyaya, aged between 16 and 70 years attending OPD of SDMCAH were randomly selected and assigned into two groups. Vamana with Madana Phala yoga and Draksha kashaya followed by Astanga Lavana with dose 6 g bid and in control group Vamana followed by placebo capsule bid for duration of 1 month were given. Follow-up was done for 2 months. Assessment was done on the basis of self-scoring symptoms/subjective and objective parameters of Madatyaya. The study clearly showed that there is marked improvement in both groups with added effect in group 1. Patients of Madatyaya are better treated with Vamana followed by Astanga lavana as Shamana Oushadhi. **[PA-87]**

Keywords: Madatyaya; Vamana; Astanga lavana

Clinical Study on Management of Kati Graha w.s.r. to Lumbar Spondylosis with Eranda Muladi Yapana Basti

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Of the world's population, 70%–80% suffers from backache at some point in their lives, and lumbar spondylosis (LS) is responsible for about 10% of these. LS is progressive

degeneration of lumbar spine, which if not treated may progress to cauda equina syndrome, spinal canal stenosis or spondylolisthesis. LS is progressive degenerative condition where *Vata* at its own *Ashaya* (*Asthi Sandhi*) gets provoked and as it belongs to *Madhyama Roga Marga* treatment becomes difficult. *Eranda Mula* is the best drug for pacifying *Vata*. *Yapana Basti* with milk as an ingredient gives better results than simple Niruha. Considering this, Eranda Muladi Yapana Basti has been selected in the present study. This paper assesses the clinical efficacy of Eranda Muladi Yapana Basti in the management of Kati Graha w.s.r. to LS. In this study, 20 patients suffering from LS ranging from age 25–65 years were registered and given Eranda Muladi Yapana Basti for 15 days along with recommended dietary modifications and assessed before and after the treatment. The Basti group showed better improvement in symptoms both statistically and percentage-wise. This paper presents the details of the study with clinical data. **[PA-193]**

Keywords: Kati Graha; lumbar spondylosis; Eranda Muladi Yapana Basti

Cervical Spondylosis and its Management

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Cervical spondylosis is the most common condition affecting the neck. Spondylosis is a term referring to degenerative osteoarthritis of the joints. There is restriction of movements at the affected level. Many patients with advanced radiological changes have never suffered clinically. Very often patients come to us with short duration symptoms, but the radiological changes seem to be of long duration. This means that there was a stage when these patients did not have pain while having degenerative changes. The treatment aims at taking the patients back to this asymptomatic stage. The prevalence of cervical spondylosis is becoming much more now because of many reasons. The cervical spine is subjected to major stresses and strain of mobility. Pain in neck, stiffness in the neck, vertigo and occipital head ache are the common features. The disease cervical spondylosis should be considered as a vata predominant disease because different types of pain, restricted movements, etc. are the main features of diseases due to vitiated vata. In Charakasamhitha, while mentioning 80 types of nanathmaja vatavikaras, greevasthamba is included as one of them; so cervical spondylosis can be correlated to greevasthamba. A total of 20 patients radiologically diagnosed as cervical spondylosis, having neck pain, neck stiffness, vertigo, etc. and age limit between 20 and 60 years irrespective of sex were selected for the study. Gugguluthikthaka ghritha was given internally as vicharana snehapana. Thailam with nimbamruthadi eranda and kachooradi choorna for 14 days, abhyangam with shashtika thailam for 7 days, sirovasthy with dhanwantharam thailam for 7 days and nasya with dhanwantharam thailam (21) for 7 days were done. Study was significant as the signs and symptoms of most of the patients were relieved. Hence, it is effective in degenerative diseases like cervical spondylosis. **[PA-241]**

Keywords: cervical spondylosis; degenerative osteoarthritis; vata

Dry Eye Syndrome: Ayurvedic and Modern Approach

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In the present scenario, dry eye is considered to be one of the ocular surface disorders (OSDs). Any abnormality in tear film or in components of ocular surface brings different symptoms of dry eye disease. To enhance knowledge regarding understanding of prescription of correct drug, dose, etc., the pathology of disease is brought in picture according to Ayurveda, with the help of modern science categorization of dry eye syndrome. Topics to be covered are brief anatomy and physiology of lacrimal passage, ocular surface, tear film and its components. Pathological entities, types of causes, classification, pathological conditions of different causes, dosha, dhatu, mala factors in causes and different conditions, symptoms versus disease, etc.; shushkakshipak, sashophakshipaak, ashophakshipaak, etc.; and many lids disorders, conjunctival, corneal, lacrimal disorders show different characters of dry eye syndrome. Detailed diagnosis and treatment of all these are covered in this paper. **[PA-279]**

Keywords: dry eye; ocular surface disorder; lacrimal

Role of Chandraprabha Vati and Mustadi Kalpa in Mutraghata w.s.r to BPH

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'Mutraghata' is a group of obstructive uropathic disorders, as explained in Sushruta Samhita, and is of 12 types and 'Vatastheela' is one among them, which is similar to benign prostatic hyperplasia (BPH). BPH is a progressive disease of old age. Usually men around 60 years of age have BPH (identifiable histologically), who suffer from mild, moderate and severe grade. So far, studies conducted on the same topic need further improvement based on the treatment focusing clinical, uropathological and geriatric studies. In classics Chandraprabha vati (Bhaishajya Ratnavali) and Mustadi kalpa (Sushruta Samhita) are indicated in Mutraghata and Mutrakruchra. So this study has been undertaken to improve the quality of life. It is a single blind, clinical study on diagnosed cases of BPH, Chandraprabha vati 1 tid and Mustadi kalpa 1 tsp bid given for 30 days and follow-up of 60 days. Changes were recorded based on subjective and objective criteria. The paper presents the results of this study. **[PA-290]**

Keywords: Mutraghata; Vatastheela; BPH; Chandraprabha vati; Mustadi kalpa

To Study the Role of Naranga Mottakizzhi (a Type of Pindasweda) in the Management of Avabahuka

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Even with the advanced modern treatment methods, there are a large number of diseases for which patients are not getting satisfactory relief. Avabahuka (frozen shoulder) is common among them affecting the actions of upper extremity by which any individual performs most of the work of his life. So this needs serious and careful attention of all the pathies of medical sciences. Ayurvedic text has detailed etiopathogenesis and management methods for this disease. Given Naranga Mottakizzhi is one type of traditional method based on Ayurvedic knowledge. The objective of this study is to study the role of Naranga Mottakizzhi in the management of Avabahuka w.s.r. to pain and stiffness of joint. Ten patients having signs and symptoms of Avabahuka like pain and stiffness of shoulder joint were given treatment with Naranga Mottakizzhi 20–25 min daily for 15 days. This paper discusses the results and conclusion of this study. **[PA-319]**

Keywords: Avabahuka; Pindasweda; Naranga Mottakizzhi; Sandhishoola; Sandhigraha

Clinical Evaluation of the Efficacy of Dashanga Kwatha Ghana Vati in the Management of Urdhwaga Amlapitta (Non-Ulcer Dyspepsia)

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Rigorous scientific and well-designed clinical trials to evaluate the effect of Ayurvedic medicines are lacking. We, therefore, designed this study to evaluate the effectiveness of Dashanga Kwatha Ghana Vati in Urdhwaga Amlapitta (non-ulcer dyspepsia) and to search for a safe, effective, potable, palatable and affordable alternative treatment for this common condition. A simple-randomised, single-blinded, placebo-control study comparing this Dashanga Kwatha Ghana Vati preparation with a placebo was conducted in 138 patients attending OPD of Department of Basic Principles, IPGT & RA, Gujarat Ayurved University, Jamnagar. An elaborative case taking Proforma was specially designed for the purpose of incorporating all aspects of the disease on Ayurvedic parlance. Both the groups consumed two tablets of either Dashanga Kwatha Ghana Vati or placebo, twice daily after food, as per the randomization plan for a period of 2 months. The patients were followed up to 4 weeks; 110 patients (80%) had completed the trial and no adverse effects were reported. Both

intervened and control groups had improved in the clinical trials; overall statistical significance was observed in the differences of scores between the two groups. **[PA-527]**

Keywords: Urdhwaga Amlapitta; Dashanga Kwatha Ghana Vati; non-ulcer dyspepsia

Clinical Effect of VV Formula on Erectile Dysfunctions in Middle-Aged Male: Ayurveda Intervention in Sexual Problems

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When a normal man gets sexual impulses by thought of women, viewing the pornographic pictures, video films and sexual indulgences causes the man to get the pen erect for sexual act. This is a normal physiological phenomenon. If any disturbances or breakup comes to the individual by psychological stress factors, infections, abnormal behavior and suppression of sex impulses, it causes erectile dysfunctions in men. This study is aimed to understand the clinical effect of VV formula on erectile dysfunction of male subjects studied during 2000–2003, at the Andrology Department, Onkar Hospital, Chhattisgarh and Gopabandhu Ayurveda Mohavidyalaya, Puri, Orissa with an objective parameter, i.e. Rigi scan Plus system. A total of 69 cases were scanned through inclusive and exclusive criteria. *Inclusive Criteria*: Subjective parameters are: (1) age between 25 and 50 years, (2) improper erection, (3) unsuccessful penetration and sustenance, (4) lack of orgasm, (5) lack of sex desire, (6) lack of confidence. Objective parameters are: (1) measurement of penile rigidity of tip and base of the penis, (2) duration of erections. *Exclusion Criteria*: (1) Age below 25 and above 50; (2) suffering from STD; (3) anatomical abnormality of penis and testis; (4) malignancy; (5) hypogonadism; (6) congenital deformity of sex organs; (7) AIDS; (8) other systemic diseases. After screening of all the patients through inclusive and exclusive criteria, 45 of the 69 patients had been selected under three groups, each group having 15 patients. Group 1: Trial drug/VV formula 0.5 g once in a day at bed time with 120 ml of milk for 1 month. Group 2: Control drug/sildenafil citrate 50 mg once in a day at bed time for 30 days. Group 3: Placebo/flour and Semolina powder 5 g once in a day at bed time for 30 days. VV formula is a herbal compound and having the therapeutic actions of rejuvenation, virulization, aprodisiac, strengthens the tissues, mild sedative, diuretics, anti-inflammatory, Appetizer, anti-helmenthic, etc. During the study period, all the patients were suggested vegetarian diet and 120 ml of milk with little sugar/honey. Excess salty, spicy and oily foods were restricted. All the subjects were initially given counselling and proper sex education. All the subjects were assessed with Rigiscan plus System for objective and subjective evaluation through International Erectile Functions Questionnaire (IEFQ). After close observation of the subjective and objective parameters, it is concluded that VV formula is significant in erectile dysfunction for middle-aged male subjects. The paper discusses the details of this study. **[PA-560]**

Keywords: VV formula; sildenafil citrate; IEFQ

Degenerative Diseases of Eye: a Clinical Study in Ayurveda Ophthalmology

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The objective of this study is to prevent further growth in degenerative diseases and to prevent recurrence of symptoms. Clinical evaluation of seven degenerative eye cases were done, who are having Pterygium, along with difficulty in vision. Grading is done like Grades I, II and III according to the physical appearance and pain. All were fresh cases without surgical intervention. Ayurvedic tropical and internal medicines were given, and every patient is followed-up after every 2 weeks for 1–5 months. The patients ranged from age 30 to 75 years; six female patients and one male patient. The aim is to provide stabilization of condition and prevent recurrence of symptoms. No surgical intervention was needed. Within a period of 1–3 months, growth like Pterygium was stabilized and symptomatic relief was achieved. Further, for preventing more degeneration and rejuvenation, more than 3 months are needed. All patients were advised to eat healthy food that is good for eyes. Further study is needed for re-evaluation and to explore better results. **[PA-681]**

Keywords: Pterygium; Pinguecula; Armam; Pishtaka; Ayurveda medicine; degeneration and recurrence of symptoms prevented

Application of Ayurveda Siddhanta in the Management of Computer Vision Syndrome

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Although Nidanaparivarjana is much highlighted and praised in the context of chikitsa, it is not possible always to follow especially in a disease like CVS. In this study, Triphala Yashtimadhu Yoga, a Chakshushya Rasayana, is selected in the form of choorna owing to easy palatability, so that one can perform routine activities without interruption. This is a conceptual single-blind clinical study. A total of 30 patients were selected randomly and were given Triphala Yashtimadhu Choornam in the dosage of 12 g bid (in divided dose). Data were collected before commencement of treatment, after completion of treatment and after follow-up. The data were analysed using contingency coefficient and other statistical tests. Effect of Triphala Yashtimadhu Choorna showed highly significant results in parameters such as dry and irritated eyes, redness of eyes, tearing eyes, headache, burning in eyes, blurred vision and photophobia. The paper concludes that Triphala Yashtimadhu

Yoga, a Chakshushya Rasayana, is effective for a disease caused due to Asatmendriyartha Samyoga. **[PA-737]**

Keywords: computer vision syndrome; Netra Roga; Asatmendriyartha Samyoga; Triphala Yashtimadhu Yoga

Evaluation of the Clinical Effect of Selected Ayurvedic Drug Regimen in the Management of Diabetes Mellitus

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The objective of this study was to evaluate the efficacy of concomitant administration of selected drug regimen in the management of diabetes mellitus. The selected treatment module included the internal administration of Madumehari pantya – 120 ml twice a day, Madam vati 2 pills twice a day, Mixture (Agraraja kwata + Madam panaya + Kotala himbutu Panaya) 30 ml – 3 times a day after meal and prameha gajakeshari rasayanaya 5g with warm water before bed time. It was administered to the 40 patients, three months continuously. Serum blood glucose level and urine sugar concentration were determined using standard methodology. The selected drug regimen possesses potential effect in reducing fasting serum glucose and glycated haemoglobin level. The effect of treatment in improving the symptoms was compared to those of before treatment. The severities of the selected symptoms were rated according to the five point scale. The results showed that 80% of patients had recovered from selected symptoms. Patients' satisfaction rates were assessed according to the likert scale. The analysis showed that 85% of patients were satisfied with treatment which was given to them Present study, therefore reveals that the oral administration of the selected drug regimen is an effective treatment in the management of diabetes mellitus. **[PA-757]**

Keywords: diabetes mellitus, fasting serum glucose and glycated haemoglobin levels, patients' satisfaction rate.

Efficacy of Tarpana and Eye Exercise in Computer Vision Syndrome

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Damage of eyes could immerse life into an ocean of darkness. Utmost care should be given for protecting the vision. With the advent of time, inevitable changes in lifestyles and occupational challenges have led to the manifestation of new diseases. Computer vi-

sion syndrome is one such disorder with an incidence of 75%–90% of people working with computers. So it is the need of the hour to find a holistic solution to this problem. Computer vision syndrome is Vata-Pitta vitiation pathology and needs to be managed by Snigdha and Rasayana karma. Tarpana is one among the Kriyakalpa which makes eye Snigdha and Brumhana. Eye exercise reduces eyestrain and help for accommodation. Triphala Ghrita Tarpana and eye exercise are commonly practised in the management of computer vision syndrome in our hospital, SDM College of Ayurveda, Hassan. An open trail group of 20 patients fulfilling the inclusion criteria of computer vision syndrome and fit for Tarpana and eye exercise were randomly selected from SDM College of Ayurveda, Hassan. They were administered for Tarpana for 7 days followed by eye exercise for 1 month. This paper presents the results of this study. **[PA-1908]**

Keywords: computer vision syndrome; Triphala Ghrita; Tarpana; eye exercises

Relationship between Dietary Habits for Poly Cystic Ovarian Syndrome

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Bahu kostika granthi or Poly Cystic Ovarian Syndrome (PCOS) causes irregular periods and metabolic abnormalities in women leading to drastic changes in physical appearance. The study aimed at investigating the relationship between the dietary habits and the frequencies of the occurrence of the condition among a selected group of patients. Dietary influence is a major factor amongst many other causes of the disease. Excesive consumption of warm foods, poultry, lipids, and fats have high risk of developing PCOS. Data were collected through a questionnaire, personal interviews and referring to the laboratory examinations. The final analysis has revealed that torrid food like tomatoes, mustards, pickle, pineapples and breadfruit influence up to 58.3% of causing PCOS in women. Oil-based food cooked using oils has an influence up to 56.6% and carbohydrate food made out of wheat flour has 63.3% of influence in causing PCOS among the researched women. Meat-based food rich in protein like poultry had around 76.3% influence for PCOS. Thus it is clinically evident that there is a dietary influence for developing PCOS. **[PA-763]**

Keywords: Granthi, Dietary habits, Poly Cystic Ovarian Syndrome.

An Ayurvedic Approach to Computer Vision Syndrome and its Ayurvedic Management

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In the modern era of globalization, human lifestyle has been completely changed, due to full-up competition and advanced technologies. Nowadays, use of computer and Internet surfing are common, and many computer users have computer vision syndrome (CVS), its temporary condition resulting from focusing the eyes on a computer display for protected, uninterrupted period of time. Symptoms of CVS are headache, tired and achy eyes, dryness of eyes, blurred or double vision, difficulty in focusing after working for a long time on computer. According to the study, 50%–60% of computer users experience the symptoms of CVS. In this study, shatavari ghrita netra tarpana and shatavari aschatan at night showed marked results. This paper presents Ayurvedic view of CVS, its causes and preventive steps, and Ayurvedic treatment discussion and conclusion. **[PA-775]**

Keywords: computer vision syndrome; vataj netra vikara; shatavari ghrita tarpana

Emerging New Diseases and Ayurveda: Food Allergy

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Food hypersensitivity is an immunological reaction resulting from ingestion or contact with an allergic food. In the United States, approximately three million children under the age of 18 were reported to have food or digestive allergy. Food allergies account for 35%–50% of all cases of anaphylaxis. This reaction occurs in some patients even when a minute quantity of the substance is ingested. The reaction could be mild, moderate or severe, leading to anaphylaxis and sudden death. Patients treated for food allergy mostly in the age group of 1–5 years have responded well to ayurvedic medication. The IgE levels also showed a decrease from >2000 to 400 mg. They are able to consume wheat, egg, milk, milk products and pulses without any reactions. The above-stated foods were part of allergic foods list, prior to ayurvedic treatment. Thus, 90% of the patients treated for food allergy are able to consume normal food without threat to life. The paper discusses in detail various topics related to this study. **[PA-803]**

Keywords: food allergy—an Ayurvedic perspective

Importance of Rookshana Karma in the Treatment of Transverse Myelitis: a Case Study

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In Charak Samhita, all the treatment modalities have been classified broadly into six types, i.e. Langhana, Bhringana, Rookshana, Snehana, Swedana and Stambhana. Of these six,

Rookshana is of some importance as others but is used less frequently as a main line of treatment. Since decades, Ayurveda treatment is considered as the most promising treatment for neurological disorders. Most of the neurological disorders are generally considered as Vata Vyadhis, in which Snehana Karma is recommended. In case of neurological disorders if symptoms are suggestive of Kapha dominance, then Rookshana must be done initially. Transeverse myelitis is a neurological disease which has an autoimmune process involved in its pathology. It is an acute, sub-acute, generally monophasic inflammatory disease of spinal cord. In the present case of transeverse myelitis, the patient was found having kapha-dominant symptoms such as coldness of feet and loss of appetite, and hence he or she was subjected to Rookshana karma in various forms. Just after 15 days, all these symptoms were subsided and tremendous improvement was found thereafter. The paraplegic patient under study was able to walk independently in just 2 months of treatment. All other typical features related to the disease were also improved. This particular case has proved the importance of Rookshana therapy in neurological disorders. The paper carries the detailed study results. **[PA-886]**

Keywords: transeverse myelitis; Rookshana karma

Pravahika in Ayurveda

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Pravahika is a swatantra vyadhi and upadrava of Atisara. The Brhut trayis has explained about it. In developing countries, the unhealthy environment, food habits and occupation play an important role in creating life-throbbing problems. Among this, amoebiasis caused by *Entamoeba hystolytica* is a common communicable infection of gastrointestinal tract. It is estimated that 45–55 million people carriers and approximately one-tenth of the infected individuals suffer from invasive amoebiasis, which has accounted for 7500–130 000 deaths in the world. The objective of this paper is to study this and to assess the efficacy of Ayurvedic treatments. This study is a clinical trial to assess the efficacy of Sangrahi Vasthi and Kutaja Parpati in Group A and Takra Vasthi and Kutaja Parpati in Group B, each containing 15 subjects. Group A receiving Amapachana with Hareethakyadhi churnam; Sangrahi Vasthi in Kalavasthi for 16 days, Shamana chikitsa with Kutaja Parpati for 32 days. Group B Amapachana with Hareethakyadhi churnam; Takra Vasthi in Kalavasthi for 16 days, Shamana chikitsa with Kutaja Parpati for 32 days. After the clinical trial, specific observation was made. Sangrahi Vasthi and Takra Vasthi showed highly significant results on clinical parameters. Kutaja Parpati has anti-amoebic property. All the 30 subjects underwent treatment belonging to both groups, the stool test for the presence of amoebic cyst which was positive showed negative results after treatment. Comparatively, Group A showed higher degree of improvement though both groups had highly significant results on clinical parameters. **[PA-890]**

Keywords: Pravahika; intestinal amoebiasis; Amapaachana; Sangrahi Vasthi; Takra Vasthi; Kala Vasthi; Kutaja Parpati

Application of 'Asthimala Lakshanas' to Evaluate 'Asthi Sarasaratva Parikshan'

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Everybody knows the importance of Ayurveda to maintain health as well as to cure diseases. It is a little bit difficult task for Vaidyas concerned with 'Agni' in Dhatwagnibal Parikshan, i.e. Sarasar Parikshan. Formations of malas depend upon the 'Agnibal'. Examination of Dhatwas is not so easy because in normal state they never leave the body, while malas excretes routinely. Even a slight change in 'Agnivyapara' gives effects on nature of malas qualitatively and quantitatively. For Dhatusarasar Parikshan, why can't we use Dhatu Mala lakshanas? 'Asthi Dhatu' is most stable and toughest of all. It is not easily imbalanced in healthy as well as in diseased conditions. There is increased number of cases of osteoporosis (Asthi Kshaya) after the age of 40 years in women, as well as in aging processes in both sexes. It is believed it occurs in 'Asthi-Asara' persons. This may be prevented by evaluating 'sarasar parikshan' in early ages. Graying of hair and hair fall are the problems increasing in young generation, yet there is no proper solution. This study may help physicians to solve these problems. Certain parameters are useful for the study of 'Asthi Sarasar Parikshan' to measure 'Nakha Vriddhi', 'Loma Sankhya', etc. along with specific questionnaires. After the statistical data collected from the large sample group, I got hopeful results. Finally, I come to the conclusion that 'Nakha Vriddhi and Loma Sankhya Pramana' are maximum in 'Asthi-Asara' persons and minimum in Sara persons, which clearly indicates that in Sara persons 'Dhatu Mala Abhivyakti' is 'Alpa' and in 'Asara' it is 'Adhika' by quality and quantity. **[PA-999]**

Keywords: Sarasar-pariksha; Asthi-Dhatvagni; Dhatumalas; Nakha-Loma abhivyakti

Clinical Study on Bilwadi Leha in the Management of Pravahika

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Principles of positive health are affected by today's fast life, changed food habits, contaminated water, physical and mental stress. That means due to changed Ahar, Vihar and pathyapathya vichar, people are suffering from various diseases. In Pravahika saman vayu, apana vayu and also kledak kapha get vitiated, and as a result of this the patient develops a tendency of Pravahan which becomes more chronic. Bilwadi Leha is specially stated in 'Bhaishyajya Ratnavali' in the treatment of Pravahika. It contains the following drugs: Bilwa, Sunthi, Pimpali, Guda with Tila Tail. Anupan—honey in dose of 6 g. In order to prove the efficacy, 30 patients were selected irrespective of age, sex, religion and socioeconomic status, and nature of the study plain random. Study was carried out more than 21 days. Examinations of patients were conducted after every fourth day. The criteria for the assessment of relief were done mainly on 'subjective parameter'. After completion of study, the relief was assessed symptomatically in subjective parameter. In all,

23.33% patients got good relief, and 76.67% patients got moderate relief. In objective parameter, 86.67% patients got good relief, and 13.33% patients got moderate relief. The statistical analysis was carried out and the test of significance (paired t-test) is positive, i.e. suggesting this study was significant. The present research work was carried out within available and limited facilities and time; however, effort should be made to minimize the practical errors, and more intensive research work is necessary on this topic. **[PA-1048]**

Keywords: Pravahika; Annavaha strotas; prakopit saman vayu; apna vayu kledak kapha

Clinical Study of Asthenozoospermia with Palash-Ashmabhed Siddha Ghrita

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'Asthenozoospermia' is considered as one of the major causative factors for infertility in men. 'Low motility' is a most common finding in semen analysis of an infertile man. Various drugs are available for Asthenozoospermia in modern medicine, such as hormones, which are expensive and having a large spectrum of adverse effects. The main objectives of this research were to determine the efficacy of Palash-Ashmabhed Siddha Ghrita in Asthenozoospermia and propose a cost-effective management. From the Ayurvedic classical references, we have correlated Asthenozoospermia with 'Granthibhoot shukra dushti', in which vitiated Vata and Kapha dosha together lead to formation of aggregation or agglutination of sperms, which hampers the motility of sperms and results in Asthenozoospermia. Asthenozospermia means 'fatigue of sperms'. It is the most important factor which affects the male fertility. In this prospective open uncontrolled study, 30 married patients of 20–50 years of age group having Asthenozoospermia were selected from OPD of RA Podar Ayurved Medical College and Hospital, Worli, Mumbai, for this clinical study. Palash-Ashmabhed Siddha Ghrita was given at Rasayan kala in a dose of 6 ml orally with milk for 2 months. All the ingredients of the drug have property to increase the motility of sperm as well as count by providing essential amino acids and micronutrients. It contains minimum ingredients which are herbal, safe, easy to administer and no patients were observed with any untoward effects. Results were encouraging and statistically highly significant. **[PA-1122]**

Keywords: Asthenozoospermia; Palash; Pashanbhed; granthibhoot; Shukra-dushti

Clinical Evaluation of Ayurvedic Programme on Muscular Dystrophy: 55 Patients

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Neuro-muscular disorders are formidable challenge to practitioners and patients usually considered incurable. Genetic and acquired neuromuscular diseases represent a major

cause of mortality and morbidity in children and adults with a prevalence of more than 5% in the general population. Clinical evaluation involving Rasayana-based Ayurvedic herbs along with Til-Mash pinda swedana; Shat-Bala Prasarni Anuvasana Vasti and Yogic support yielded mixed results in 55 boys with 28 Duchenne Muscular dystrophy (DMD); 19 with Beckers Muscular Dystrophy (BMD) and 8 boys with Limb Girdle Muscular Dystrophy (LGMD). Although this Ayurvedic programme did not have the hope for the genetic effect of restoring dystrophin production, it did reduce serum CK levels. This could be a sign of decreased muscle damage. As there was definite improvement in functional ability, it is possible that complementary Ayurvedic treatment allows longer survival with minimum disability. **[PA-1122]**

Keywords: neuro-muscular disease, muscular dystrophy, mamsagni Rasayana, DMD, BMD, LGMD

Obstacles with Solution for Using Authentic Ayurveda in USA

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Four obstacles with solutions are presented for vaidyas seeking to practise Ayurveda in the US. (1) A significant part of clinical practice requires the practitioner to provide counseling on Ayurveda. A deeper understanding of food processing, agricultural practices, and permitted chemicals is required: freezing, microwaving, canning, and preservatives change the rasa and virya of foods. An example is milk: processing has altered the traditional ayurvedic assignment of milk as a rasayana and sattvic food. (2) As ayurvedic medicine is not a US-licensed profession, only practitioners in the seven states with Health Freedom laws openly maneuver practice around diagnosis and treatment regulations to use full authentic ayurvedic approaches. (3) Understanding DSHEA and FDA guidelines for dietary supplements is required for promoting botanicals to patients, and to those seeking to market products in the US. Making health claims with the wrong language can lead to FTC investigations. New vaidyas arriving in the US succeed by understanding laws through first utilizing the internet, training online, finding the 6–10 organizations in the ayurvedic community. (4) Using supplements with active ingredients is not equivalent to using the herb prescribed by Charaka. The growing popularity of curcumin replacing turmeric needs to be explained to patients.

Keywords: toxicology, DSHEA, counseling, internet training, food processing

Ayurvedic Management of Fibromyalgia

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Fibromyalgia (FM) is a chronic and debilitating central pain disorder. Characterized by the widespread musculoskeltal pain, fatigue and sleep disturbances, the lack of overt inflammation or joint destruction often associated with numerous rheumatologic disorders make the diagnosis and management difficult. Eighteen specific tender or trigger points,

where pain and tenderness may be stimulated, have been identified in tendons and ligaments in the neck shoulder area, trunk and limb, and these trigger points may be used in diagnosis. In some individuals, irritable bowel syndrome (IBS) and urinary symptoms may accompany the chronic pain. In Ayurveda the cause of FM can be categorized into prominently vitiation of vata (disturbances of Nervous system functions, including neuromuscular activities) and accumulation of toxins, with blockages (Ama) in the body. The aim of the treatment is to balance vata according to Ayurvedic principles where the normal physiology of the vata as mentioned above is achieved. Treatment is combined with counseling, yoga and meditation. Symptoms of FM are relieved clinically. In all conditions of FM annual maintenance treatment with panchakarma give good result helping to avoid NSAIDs and TCA antidepressant medications. This paper gives details of the treatment.

Ayurveda in a General Practitioner's Office: 20 years of experience

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This paper aims at evaluting the use of Ayurveda as a practice of Complementary and Alternative Medicine (CAM) in a family practice. The following points are covered: status, education and range of activity of a General Practitioner today and in the Vedic culture of ancient India; Ayurvedic methods of improving health and personal development of the doctor (prevention of burn-out syndrome), advantage of treating patients with Ayurvedic therapies, comparison of ethical background of Ayurvedic and modern medicine, listing of different therapeutical applications in Ayurveda, profile of typical patients attracted towards Ayurvedic consultation and therapy. Ayurvedic pulse reading as a screening method in a GP`s office, listing of typical disorders are especially favourable for ayurvedic treatment. This paper covers case histories of patients – rheumatory arthritis, Heberden`s arthritis, burn out syndrome, anxiety and sleep disorder, irritable bowel syndrome (IBS), psoriasis – as well

Keywords: CAM; Ayurvedic therapies

Why Does Europe Feel Frightened about Oriental Medicines?

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More than half of Western population have taken part in oriental therapies; in Germany, 20,000 doctors got training in this matter in 1995–2006. The financial turnover in USA is 25 billion USD and in England it is 230 million USD. Globally, 80 billion USD per year is spent on traditional products. The number of CAM department opening universities is flaring around the world, and the European Union started an international research project too (www.cambrella.eu), even so the European doctors community is suspicious because of two reasons. The first reason is detached. The oriental herbal medicine, e.g. greatly affect the parts of the plant used, in conjunction with climate and soil conditions, etc. the

potency and the quality of herbal preparations. Second is the criminal reason. The counterfeited medicines give more than 10% of the global pharmaceutical trade in value approx. 75 billion USD. The main sources of counterfeit medicines are oriental, with one exception, Switzerland. We need independent analysis performed on herbal preparations because there are significant discrepancies between the amounts of active ingredients in different brands, as well as international control of preparations. This lecture focuses on the base of European suspicion against oriental traditional medicine, and tries to find a solution to build these practices into the European health care.

Keywords: CAM, traditional medicine, oriental remedies, counterfeited medicines

Clinical Study of the Efficacy of Udumbara Syrup in the Treatment of Amlapitta Condition

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Present study was conducted to evaluate the effect of Udumbara syrup for Amlapitta(Gastritis). Study has randomly selected 40 patients who were suffering commonly from the symptoms such as burning sensation, acid eruption, nausea, abdominal pain, constipation, weakness of body part, vomiting, loss of appetite, headache and flatulence. The patients were then categorized into two groups. Udumbara syrup was given to the A group at a dosage of 15ml trice daily up to 3 weeks. Gotu syrup (Manduka parni / Centella asiatica) was given to B group at a dosage of 15 ml thrice daily up to 3 weeks. Data recording and measuring efficiency were done under five conditions: severe, moderate severe, moderate, mild and nil. Values from 4 to 0 were given sequence. Productivity of the treatment was found using P-value. SPPS and MINITAB packages were used for data analysis. In group A, the research result is significant ($p < 0.005$). According to above test, Udumbara syrup can be recommended as an effective drug for the amlapitta.

Keywords: Amlapitta, Gastritis, Udumbara syrup, Gotu syrup, Manduka parni

Increased Post-prandial Insulin Release by Ginkgo Biloba Extract

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Ingestion of Ginkgo Biloba Extract (EGb761) has been shown to increase pancreatic beta-cell function in both healthy subjects and patients with type 2 diabetes (T2DM) by itself. We investigated the EGb761-influenced insulin sensitivity and metabolic control in rats with experimental T1DM and T2DM. In addition, a pilot clinical study was carried out

with non-diabetic patients with established insulin resistance syndrome. In both studies, fasting and post-prandial blood glucose level, plasma insulin immunoreactivity and whole body insulin sensitivity determined by hyperinsulinaemic-euglycaemic-glucose-clamping. GOTO-KAKIZAKI rats treated with EGB761 (10-100 mg/daily/12-week) exhibited dose-dependent increase in post-prandial maximum plasma insulin immunoreactivity with no change in whole body insulin sensitivity. The percentage increase in HbA1c was not significantly modified by EGb761. In rats with streptozotocin–induced diabetes EGb761 (10-100mg/kg) significantly increased post-prandial insulin release and decreased HbA1c with no change in whole body insulin sensitivity. In the clinical study EGB761 (125 mg/daily) produced no change in either whole body insulin sensitivity or HbA1c level with a significant increase in post-prandial maximum increase in plasma insulin immunoreactivity. The ingestion of EGb761 did not produce insulin resistance. However, it was able to increase post-prandial insulin release in both animals and insulin-resistant patients.

Keywords: Ginkgo Biloba Extract; type 1 diabetes mellitus (T1DM); T2DM

Ayurvedic Pulse Technique (APT) (Nadi Vigyan) as a Greatest Assessment Tool for All Clinicians

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Ayurvedic pulse technique helps detect ongoing physiological changes and imbalances in surface and deep levels of the pulse; eliminate toxins, enhance digestion and achieve optimum health; verify levels of ama, prana, tejas, and ojas in the pulse; evaluate imbalances in Agni; locate and feel sub-doshas in the pulse; observe and understand the organs and tissue pulse; and predict the influence of biorhythms on the pulse. The paper discusses about the importance of ayurvedic pulse technique (Nadi Vigyan) in classical ayurvedic description and references, beneftis of ayurvedic pulse technique, identify the doshic pulse, locating different qualities of doshas in the pulse, locations and functions of vata, pitta, and kapha in the body, influence of bio-rhythms, seasons, and daily routine in the pulse, identify balanced and imbalanced pulse, signs and symptoms of dosha balanced, increased, and decreased in the pulse, doshic movement (Gati) in the pulse, and sub-doshas of vata, pitta, and kapha in the pulse.

Keywords: Ayurvedic pulse technique; vata, pitta, kapha

Reverse Holistic Pharmacology for Modernising Ayurveda

Shyam S Chatterjee

Appropriate choices of patients, parameters and designs necessary for evaluating therapeutic potentials of Ayurvedic herbal remedies can be largely rationalised and facilitated by appropriate use of available preclinical information on them. However, till now little efforts have been made to develop specific preclinical models and concepts particularly useful for evaluating therapeutic potentials of such remedies. Models and concepts currently

widely used for more rational globalisation of Ayurvedic remedies are, in general, carbon copies of those commonly used for the discovery and development of so-called 'modern drugs'. Evolving most modern concepts of medicine and other biological sciences have now started pointing out though, that many concepts and principles of Ayurveda have close similarities with those of modern medicine based on experimental evidence. This paper aims to systematically analyse the situation and point out the complex problems, and controversial discussions, arising from inappropriate designing and uses of preclinical animal models. In addition, it also includes a feasible integrative strategy for more rational preclinical evaluation of Ayurvedic herbals. This strategy could not only be a more cost-effective and rational one for better use of Ayurvedic epistemology, but also for expediting progress towards integrating Ayurveda with other modern systems of medicine.

Keywords: Modern drugs; Ayurvedic epistemology; Herbal remedies

Rasoushadhis: a Literary Review

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Rasa Shastra is a branch, which advocates the metals and minerals in the form of medicines for curing any kind of ailments. It has its roots in pre-Vedic period but flourished in post-samhita period. This science has identified good and evil effects of the raw materials in their crude form and rendered them a powerful and potential tool for curing the diseases by subjecting to various procedures and advises mode of administration and restrictions. Among the restriction while on the regimen of these drugs is avoidance of a group of drugs known as 'Kakarasthak /Kakaradi'. In the present paper what are these drugs and what the literature says about will be discussed.

Keywords: Rasa Shastra, Rasa Oushadhis; restrictions, Kakaradi

Osteo Arthritis: a Comprehensive Ayurvedic Management

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A highly promising result in the management of degenerative arthrosis has been developed beyond the present medical concept. An elaborate scientific interpretation of Ayurvedic concept helped us to develop a new, fast, predictable and reliable treatment modality for degenerative arthrosis. After 10 years of silent observation and documentation of more than 10,000 cases, we introduce a satisfactory and reliable solution to address the degenerative pathologies. This distinct treatment programme is named as Compact OA Knee Package. This treatment is found very effective in almost all knee pathologies like age-related OA, meniscal degeneration, Chondromalacia pattella, Haemarthrosis in Haemophilic patients, post-Arthroscopic and post-surgery OA changes, Sports injuries and early OA changes, etc. All the cases have reported excellent results except Synovial chondramatosis. This paper deals with the treatment methodologies in detail. **[PA-34]**

Keywords: degenerative arthrosis; Compact OA Knee Package

Clinical Research to Study the Purgation Action of Abhayadi Modak in Amlapitta

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Clinical research determines safety and effectiveness of medications, dignostic products, treatment regimen intended for human use. These may be used for preventive treatment, or for relieving symptoms of a disease. Amlapitta is common medical problem among humans. The most common causes of Amlapitta include poor or imbalanced diet, a weakening of immune system brought about by smoking, alcohol abuse, lasting and unresolved stress, etc. In Ayurveda, to get complete relief from disease, shodhana therapy is used. Virechana is one of shodhna therapy for Amlapitta. Virechna works on the pitta zone of the body. Ama associated with pitta gets discharged from the body through rectum because of its proximity and accessibility. Virechna works in downward direction to eliminate the pitta-related Ama and excess pitta in the form of acidic secretions. Abhayadimodak is said to be Sarvroghar. The contents of it maintains the increased level of Drav Guna in Amlapitta. The study of Abhayadi modak is carried out to select the most appropriate indigenous treatment for Amlapitta. 30 patients of age group 17–30 years were given treatments by Abhayadimodak for shodhna. 't' test has been applied for this clinical research. This paper discusses the test results of this study. **[PA-627A]**

Keywords: Amlapitta, Hyperacidy, Virechna Shodhan

Mental Health and Ayurveda

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Ayurveda is science of life and longevity, which considers mind to be one of the three pillars {tristhuna} on which the life depends. Mental health is concept that refers to balance of social, physical, spiritual and emotional aspects of life. Ayurvedic science recognizes that the physical level of being is foundational and intimately connected to the more subtle mental and emotional states that are experienced in the human condition. Ayurvedic therapy emphasize the development of positive patterns at the physical level in order to impact mental and emotional processes. These positive behavioural petterns serve to neutralize negative or destructive patterns. MANAS is that which conceptualizes, analyses, and interacts between our inner sub-consciousness and our experience of outer world. It described primary qualities of mind or guna as a Sattwa, Rajas and Tamas. The aim of Ayurveda is to create emotional and physical health and to cure diseases. There are so many Mansik Vikar such as Unmad, apasmara Atatwabhivinesh, etc. In Ayurveda, panchkarma and Yoga have greater role & help to keep our mental status healthy. **[PA-627]**

Keywords: Mental health mansik, santulan, Satvata

Efficacy of Comprehensive Ayurveda Management of Sandhivata (Osteoarthritis Knee) with Herbomineral Formulations and Panchakarma Therapies

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Sandhivata is a major disease in modern age due to its high prevalence. It is a major cause of disability and impaired quality of life particularly among the elders. It is imperative to explore a therapeutic module to tackle this condition and possibly find solution that can delay or even prevent surgical intervention as Sandhi are sites of Marma. The objective of this study was to study the effectiveness of comprehensive Ayurveda management on osteoarthritis knees. The patients were diagnosed on clinical examination (main symptoms: tenderness, pain, swelling, and crepitus) and X-ray. Shaman chikitsa consisting of a combination of herbomineral formulations long with Panchakarma therapies, which included Snchan, Nadi, Swedan, Shastika Sali Pinda Swedan, Janu Dhara, and Jalukavacharan were administered. The symptoms were graded from 0 (no symptom) to 4 (severe symptom), in ascending order of severity. The symptom score for each visit was marked separately for each knee. Maximum score out of both knees was considered for analysis. The change in symptom score was studied using 'paired t test'. The analysis was done using 'Graphpad Instat' software. Highly significant relief ($P < 0.0001$ for all symptoms) in tenderness, pain, swelling, and crepitus was observed. Mean reduction in these symptoms was observed as tenderness reduced by 1.56; pain was reduced by 1.98; relief in swelling was 1.2; and reduction in crepitus was 1.3. The 'Madhyam Roga Marga' affliction in this condition makes the manage-

ment challenging and hence a comprehensive approach incorporating herbomineral formulations orally and Panchakarma therapeutics was found to be more effective. **[PA-1214]**

Keywords: Sandhivata; Marma; osteoarthritis knees; Madhyam Roga Marga

Development and Standardisation of Cowdung-based Polyherbal Face Pack and Evaluation of its Antimicrobial Properties

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The medicinal importance of natural resources such as animal produce, herbs and the minerals is well descried n ancient Indian medical science. i.e. Ayurveda. The present study was undertaken to develop, standardize and evaluate antimicrobial property of cowdug-based polyherbal face pack, an innovative cosmetic product. The product was developed by suing natural resources cowdung, neem leaves, multani mitti, Haridra, Haritaki, Shatawari, Kapoorkachari, and Vaca. The formulation was standardised by using physic-chemical parameters like particle size, moisture content, extractive values, ash values, microbial count, heavy metal, pesticidal residue, and HPTLC. The extracts were prepared in ethanol, methanol, acetone, and DMSO. The extracts were screened for their antimicrobial activity using the agar well diffusion method. They were tested against *Staphylococcus aureus*, *T. rubrum*, and *Menthagrophytes*. This study supports the use of natural resources to promote rural industrialisation. **[PA-1217]**

Keywords: antimicrobial, rural, cowdung, cosmetic

Glory of Ayurveda in the Field of Cosmetics: a Clinical Study

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Cosmetics are considered as an integral part of human life, not only today but also from ancient days. In the past, men were totally dependent on nature for their beauty. They used various natural sources as cosmetics. Ayurveda vividly describes lot of medicinal plants as cosmetics. Vitiligo is a dermatological manifestation and remains a great problem before tropical countries. Vitiligo patients go through a great deal of distress in this modern cosmetic era. *Hemidesmus indicus* and *Vetiveria zizaniodes*, which are considered as important medicinal plants in treating various dermatological problems, were selected for a clinical trial. In this study, 20 patients irrespective of age and sex having acquired patches of hypopigmentation with normal texture of the skin surface were selected. The patients were treated with powder of *Hemidesmus indicus* and *Vetiveria zizaniodes* (10 g) twice daily with water for a period of 9 months. After treatment for 9 months, the result was assessed in terms of subjective and objective criteria. The effect of the drug was highly encouraging. Further study is needed to evaluate its efficacy in the management of vitiligo in detail. **[PA-10]**

Keywords: cosmetics; vitiligo; *Hemidesmus indicus*; *Vetiveria zizaniodes*

Cosmetology and Ayurveda

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The concept of beauty and cosmetics is as old as mankind and civilization. Being beautiful irrespective of age, sex, and color is not a thing desired just today. Ancient scriptures such as Abhijnana Shakuntala, the famous depictions in the Ajanta and Ellora caves, encryption in the Aryan period, all these encompass the reference of cosmetics and witnessed the use of certain herbs for beautification. The word cosmetology is basically derived from a Greek word which means 'Skilled in adornment'. In a broader sense, it constitutes skin, hair, nail care, and in fact the whole body care. Beginning from Dinacharya, every regimen (such as mukha netra prakshalana, abhyanga, mukha lepana, chatra dharana, nasya, anjana, and snana) is basically intended to adorn oneself and look beautiful. Beauty and cosmetic care is the main focus of the ancient erotic authors such as Vatsyayana Kalyanamalla and , Jayadeva, who have elaborated certain soundarya vardhaka yogas for maintenance and enhancement of beauty such as oshtha soushthavakara, mukha sugandhikara, anga sug-

andhikara, kesha vardhana, kesha ranjana, kesha sugandhikara, roma shaatana, and yogas. An attempt is made in this paper to focus and highlight the significance of cosmetology in Ayurveda. **[PA-867]**

Keywords: cosmetology; Dinacharya; soundarya vardhaka yogas

A Traditional Solution to Premature Greying: Natural Mashi

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The main objective of this study was to carry out the preliminary phytochemical studies, qualitative estimation of protein, enzyme activity, antifungal assay, and hair dye preparations. Natural Mashi (hair dyes) were prepared with polyherbal combination in a classical way and clinical trials were carried out. Preliminary phytochemical analysis of the selected plants showed the presence of steroids, reducing sugars, alkaloids, phenolic compounds, flavanoids, tannins, saponins, anthraquinones, and amino acids. The protein content (Lowry's method, 1951) was also found to be adequate in the selected plants, which gives strength to the hair. Leaves and fruits of the selected plants possess activities of enzymatic antioxidants in catalase and peroxidase, which was also confirmed in this study. The antifungal activity of the selected plants showed very good activity against *Tinea eapitis* and *Candida albicans*. Hair dye was prepared as per the procedures adopted in beauty parlours and in Ayurvedic methods. Prepared hair dyes were tried clinically and proved to be safe and ecofriendly without any side effects compared to commercial dyes that contain hazardous chemicals. **[PA-885]**

Keywords: phytochemistry; antifungal activity; Natural Mashi; clinical study

Hartaladi Yoga Effect on Permanent Lomashatana

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The study aims to preparation Hartaladi yoga and its permanent lomashatana effect. It is believed that Hartaladi yoga of Sharangadhra Samhita is effective and there will be no hair growth and no side effects. As per explanation in classical literature, it can be effective in both types of hairs, vellus and terminal hairs. Graya Hartal, Manashila, Shankha

and Sarjikshara are taken. Fine powder of Shankha is prepared using Loha khalva. Hartals, Manashila and Sarjakshara are powdered to a fine state in khalva yantra. Vastragalana of all above drugs except Sarjikshara is done using a thick cloth. It is kept in a bottle. Sarjikshara is kept separately in an airtight bottle. Good response: 100% hair loss without any understanding effects. Moderate response: 50%–99% hair loss. To conclude, if the medicine is applied after threading or waxing, permanent hair loss is observed, as medicine may reach the germ cells. **[PA-986]**

Keywords: Hartal; lomashatana

Clinical Study to evaluate the efficacy of Paste of Manjistadiya on Acne vulgaris (Yuvana Pidaka)

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Yuvana Pidaka, as described in Ayurveda, causes erosions on the face, resembling the thorns of a Salmali tree, especially in youths. Signs and symptoms of Acne vulgaris are Comedone, macule, papule, nodule, pustule, scars and cysts. Yuvana Pidaka can be correlated with Acne vulgaris. This clinical study evaluates the efficacy of paste of Manjistadiya in management of Acne vulgaris. Manjistadiya is prepared by mixing powders of root of *Rubia cordifolia*, seeds of *coriandrum sativum*, stem of *Santulum albabum*, bark of *Kokoona zeylanica*, rhyzome of *Curcuma aromatica* and stem of *Coscinium fenestratum* in equal quantities. A paste is made by adding 10 ml water to 5 g of above mixture. sixty patients having Yuwana Pidaka were selected and divided in to two groups. Group A consisting of thirty patients, was treated with 5 g of Manjistadi paste, once a day for 14 days. Group B consisting of thirty patients, was given 10 ml of placebo. Response to the treatment was recorded and therapeutic effects were evaluated by symptomatic relief. In Group A, treated with paste of Manjistadiya, a significant symptomatic relief in eruptions, pain, tenderness, scars and greasiness of the face was observed. An increased fairness in facial complexion was also observed after treatment. It is concluded that paste of Manjistadiya can be used as an effective treatment for Yuvana Pidaka.

Keywords: Yuwana Pidaka, Acne vulgaris, Paste of Manjistadiya

To Study the Clinical Efficacy of Haridradi Taila Basti in Orthostatic Hypotension in 'Diabetic Cardiac Autonomic Neuropathy'

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This paper studies the difference in orthostatic hypotension in diabetic neuropathy (cardiac autonomic neuropathy) by giving *Haridradi Taila Basti*. *Haridradi Taila* from *Yogaratnakara Prameha–Chikitsadhikara* is selected because uncontrolled diabetes mellitus increases the risk of complications like diabetic–cardiac autonomic neuropathy. In Ayurveda untreated/neglected Prameha is said to progress to Prameha-Upadravas. This similar nature of the disease facilitates their correlation. *Orthostatic hypotension* is a cardinal symptom of cardiac autonomic neuropathy, which leads to ischaemia or infarction by reducing the coronary perfusion pressure during orthostatic hypotension; so this symptom should be managed. The phenomenon of the reversibility of diabetic neuropathy syndromes has been appreciated in case of visceral manifestation like orthostatic hypotension. The effect on orthostatic hypotension of the *cardiac autonomic neuropathy* patients was assessed along with other symptoms such as light-headedness, fading vision, pallor, tremor, weakness or even syncope. All symptoms were given scoring depending upon their severity from 0 to 4. The scores were subjected to 't' test. Our experience with treatment modalities has been encouraging. **[PA-306]**

Keywords: Haridradi Taila Basti; Prameha-Upadravas; cardiac autonomic neuropathy

Hypoglycemic and Hypolipidemic Effect of DM2A5: A Clinical Experimental Study

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In Ayurveda, Prameha has been described as 20 different types, and it is clearly mentioned that during the pathogenesis Badha and Abadha Meda have got great importance. It is also mentioned in Ayurveda that if Prameha is neglected by patients and physician, then each and every Prameha is going to turn up in Madhumeha, a type of vatika Prameha in

Asadhaya form and can be correlated with diabetes and its complication. There may be avarodhajany (any obstruction) or dhatukshayajanya vatika disorder; due to that there is derangement in Meda and Medhavahasrotas leading to hyperglycemia-associated dyslipidemia in modern terminology. In this study, we have selected DM2A5 for correcting the pathogenesis according to Ayurveda. Before starting clinical study, experimental study was also carried out in the streptozotocin-induced diabetes in Albino rats for some toxic, hypoglycemic and hypolipidemic effects of DM2A5 and histological study of pancreas, liver, and thyroid. For the clinical study, 50 patients were selected and studied for 3 months. The whole assessment of the drugs has been made under clinical subjective and objective parameters. **[PA-332]**

Keywords: hypoglycemia; hypolipidemia; Prameha; diabetes; madumeha

A Herbal Remedy for Diabetic Amputation

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Acute diabetes results in darkening, degeneration, and ultimately amputation of the affected organs, especially the leg. As per reports, at present one person in the world undergoes amputation of one or other leg every 1 min. Moreover, amputation seldom offers permanent cure for diabetes. Conversely, it may lead to further complication, like degeneration of remaining part of the limp or affecting the other leg. This study reports a herbal combination consisting of extracts from 20 medicinal plants collected from Kerala and Karnataka. This herbal product was tried on 300 patients, who were at the extreme stage of amputation of leg, under the guidance and supervision of a well-experienced medical doctor, Ayurvedic and naturopathy practitioners. It was found to be very effective in rejuvenating and bringing back the affected organs to the normal status. The treatment method consisted of a regulated diet and daily exercise along with the intake of our herbal combination. The observations made in the patients during the recovery stages brought out the fact that there purification of blood occurs due to the rejection of toxins already accumulated. This process enhanced blood circulation and removal of the blocks in the vessels and replacement of the degenerated tissues. The treatment stimulates the angiogenesis ability of the body and making amputation of the affected organs unnecessary. **[PA-371]**

Keywords: acute diabetes; angiogenesis; blood circulation

Lotus (Nelumbo Nucifera Geartn) Rhizome in the Management of Diabetes Mellitus (NIDDM)

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India has about 45 000 plant species of which several thousands have been claimed to possess medicinal properties. One such plant is the Lotus plant (Nilumbo nucifera) whose

medicinal composition includes eight categories: flavonoids, penolics, alkaloids, triterpenoids, polysaccharides, superoxide dismutase (SOD), fiber and volatile oils. The medicinal use of lotus rhizome has also been mentioned by ancient Ayurvedic scholars like Charak and Susruta in the treatment of diabetes mellitus. Diabetes mellitus is a condition of impaired insulin secretion and variable degree of peripheral insulin resistance leading to hyperglycemia and polydipsia, polyphagia and polyurea. For the treatment of diabetes mellitus, a clinical trial is being carried out in Govt. Ayurvedic college hospital by using the powder of rhizome of lotus plant. So far, the trial is yielding good results. This paper discusses the study in detail. **[PA-434]**

Validation of an Integrated Ayurveda-Yoga Module for Residential Treatment of Patients with Type 2 Diabetes Mellitus: A Compilation from Traditional Literature

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Treatment regimens for type 2 diabetes mellitus vary from one school of Ayurveda to another. The regimens used round the country fall under Kerala Ayurveda, Banaras School, and Himalayan Ayurveda. Given the fact that Ayurvedic literature is elaborate and specific, there is a need to critically validate and develop treatment regimens for the management of T2DM strictly based on traditional literature. The steps adopted for the development of the residential treatment regimen were: (1) Exhaustive literary search for concepts of *prameha*; zooming to *Madhumeha* from 10 scriptural texts of Ayurveda, to tabulate their common and unique features; (2) developed a flow chart under two channels, i.e. for those with *Sthaulya madhumeha* and *Krisha madhumeha* with four phases of management, i.e. *Purvakarma, Pradhana karma, Paschat karma* and *Sanshaman chikitsa*; (3) developed eight questionnaires to define the eligibility for four phases of treatment; (4) prepared exhaustive list of medications for the *Samshamana phase*; (5) nidanaparivarjana, ahara and vihara based on dinacharya with added integrated yoga therapy; (6) evaluation of the regimen by internal Ayurveda experts in *Kayachikitsa, Swastha vritta* and *Kaumarabhrtya*; (7) a final document including treatment manual sent for validation by external experts from CCRAS, Jamnagar University, Banaras Hindu University, FRLHT, etc. **[PA-660]**

Keywords: type 2 diabetes mellitus; Ayurvedic literature; *prameha*

Oxidative Stress in *Diabetes mellitus*: Modulation by *Curcuma longa* Linn. and *Phyllanthus emblica* Linn.

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Chronic inflammation induced by free radical damage has emerged as an important basis of the development of type 2 diabetes mellitus (DM) and its complications. Targeting this pathogenic mechanism is a paradigm in allaying insulin resistance, delaying onset of DM and preventing its complications. In the present study, we have explored the potential of *Curcuma longa* Linn. and *Phyllanthus emblica* Linn. as antioxidant activity in *in vitro* studies. Effect of phytomolecules from these plants, namely curcumin, gallic acid, ellagic acid, and ascorbic acid were studied in several *in vitro* assays, namely (1) total antioxidant capacity; (2) Hb and linoleic acid oxidation; (3) ROS generation and DNA damage in lymphocytes; (4) glycation of albumin; (5) expression of gene for SOD. Total antioxidant activity for curcumin was found to be 77%, whereas for the compounds of *Phyllanthus emblica* varied from 66% to 97%. Curcumin and gallic acid in all the assays prevented free radical damage at the concentration of 10–50 μg/ml. It also prevented fructose-induced glycation of albumin (formation of early advanced glycation endproducts—AGEs viz. fructosamine and protein carbonyl) at concentration of 10–30 μg. Other phytomolecules ascorbic acid and ellagic acid also showed antioxidant activity, and prevented Hb oxidation and AGEs formation. Gallic acid enhanced gene expression for SOD at 10 μg/ml. The study showed antioxidant potential of the phytoconstituents in the range of cellular and non-cellular assays. **[PA-905]**

Keywords: diabetes mellitus; oxidative stress; chronic inflammation; *Curcuma longa* Linn; *Phyllanthus emblica* Linn.

Role of Ayurveda and Yoga in Holistic Management of Madhumeha (Diabetes Mellitus) w.s.r. to Diet and Lifestyle

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The perspective to visualise the management of Madhumeha (DM) has shifted from holistic to drug oriented with the advent of time from ancient to modern. Therefore, till a few years before the revival of the holistic inclusion, the diet and lifestyle were not being much focused on in its management. In order to socially project the wholesome treatment and not just the approach towards the drugs, the present work aimed to evaluate the qualitative extra effect of Ahara and Vihara from the viewpoint of Yoga and Ayurveda in Madhumeha. The selected 23 patients of this study were divided into three groups where Group 1 (Ayurveda and Yoga + Ahara and Vihara) shows a total effect of 83.33% of moderate improvement, while Group 2 (only Ahara and Vihara) shows a 50% effect and Group 3 (only Ayurvedic drug/varadi kwatha) shows 27.23%. A very highly significant result ($P < 0.001$) was observed in Utsahahani with Alasya and highly significant ($P < 0.01$) in FBS, PPBS, Pipasaadhikya, Daurbalya of Group 1, while in Group 2 a highly significant result

was in FBS, and finally in Group 3 a very highly significant result ($P < 0.001$) was observed in Prabhuta Mutrata, Pipasaadhikya, Pindikovestana, Daurbalya, Alasya with Utsahahani and Klaibya. This paper presents the details of the study. **[PA-1002]**

Keywords: detail; holistic treatment; total effect; socially project

Role of Saptarangyadi Ghanavati on S. Insulin in Type 2 Diabetes Mellitus: A Pilot Study

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Type 2 diabetes can be correlated to apathyanimittaja prameha or avarana janya madhumeha. Here insulin antagonists are not allowing it to metabolize blood glucose. This paper tries to evaluate the effect of Saptarangyadi Ghanavati in apathyanimittaja Prameha. Saptarangyadi Ghanavati has been administered to six patients with type 2 diabetes to evaluate its role in FBS, PPBS, and serum insulin levels. Most of the ingredients of the formulation are pramehahara and rasayana. The results show statistically significant (paired 't' test) increase in the postprandial serum insulin level along with statistically significant decrease in the BMI and serum cholesterol level and statistically insignificant decrease in FBS and PPBS levels. It ensures good glycemic control in these cases in which sulphonylurea group of oral anti-hyperglycemic agents is not much of use. It can also reduce the dosage of exogenous insulin or oral anti-diabetic synthetic drugs, thereby preventing higher cost and adverse effects associated with use of these modern drugs. **[PA-1126]**

Keywords: exogenous insulin; S. insulin; type 2 diabetes mellitus; *Saptarangyadi ghanavati*; prameha

Management of Diabetic Foot Ulcer with Leech Therapy: A Minimal Invasive Procedure

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In diabetes, slight injury to the glucose laden tissue may cause chronic infection and ulcer formation. About 15% of all diabetic patients develop foot ulcer in their life time. The aetiological factors include increased sugar level, diabetic micro-angiopathy and peripheral neuropathy. Mainstay of treatment includes antibiotics, debridement and local wound care and footwear improvisation. In spite of all advances in health sciences, statistics reveal that

about 3% of patients yet have to undergo lower limb amputation. In Sushrut samhita, we get the most scientific description of wound and its management. Similarly, Sushruth has given the utmost importance to blood-letting therapy and considered leech as the most unique and effective method of blood-letting, even in infected wounds and abscesses. All this has inspired us to try leech therapy in diabetic foot ulcer. Patient with diabetic foot ulcer was advised to continue his anti-diabetic medicine along with weekly application of leech around the ulcer which was followed by dressing with Nimb-Haridra oil. This leech therapy proved very effective and the ulcer healed completely in 21 days. However, further evaluation should be done by taking a large sample size to prove its significance in treating diabetic foot ulcer and avoiding lower limb amputation.

Keywords: diabetic foot ulcer; Sushrut samhita; Jaloka; Vran; leech therapy

Scientific validation of medicinal herbs in the management of type 2 diabetes: A novel clinical model and approach

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Validation of herbal medicines for the use in diabetes is a complex process. Insufficiency of current therapies for the treatment of type 2 diabetes, combined with both a lack of trust in conventional medical treatment and an inability of the economy to absorb the cost of pharmaceuticals, have created a growing public interest in the prevalence of use of Complementary and Alternative Medicine (CAM) therapies, especially dietary and herbal remedies because of their effectiveness, less or no side effects and relatively low cost. WHO study groups emphasize strongly the optimal and rational uses of traditional medicines. Food Trade Commission and Food & Drug Act USA and Health Canada are deeply concerned about the efficacy and safety of natural health products. The increasingly high demand of CAM, in the absence of safety and efficacy evidence, adequate regulatory standards, patient disclosures to physicians and physician education, has prompted a unified calls from medical and scientific journals for randomized controlled clinical trials (RCTs) of these herbal medicines and functional foods in order to know their potential and to provide a basis for legitimate health claims. We, at our Risk factor Modification Centre, have developed and standardized scientific models (randomized, double blind, cross over, placebo controlled clinical trials) for clinical validation of medicinal herbs and functional foods for their use in the management of type 2 diabetes. We, therefore, clinically investigated some well documented medicinal herbs and plants for their anti-diabetic properties and the results will be discussed in the presentation. The information may not only provide the rationale of proposing the scientific models for clinical testing of CAM therapies but will also be significant in managing the problem of type 2 diabetes effectively.

Keywords: type 2 diabetes; CAM therapies; herbal medicines

Metabolic Diseases and Ayurveda: Study of Serum Cholesterol, Lipid Profile and Thyroid Concentration in Medorog

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This study was conducted to determine the effect of oral mode of drug administration in the form of lekhniya mahakashaya ghanwati (LMG) and niruha vasti on serum cholesterol, lipid profile thyroid concentration, skin fold measurement and body mass index (BMI) of obese patients. A total of 60 non-diabetic, non-hypertensive human subjects of either sex (men: 16; women: 44; media age 35 years) were included in the study. They were selected randomly on the basis of BMI, waist-hip ratio, skin fold measurement and eight charkoat clinical symptoms such as aayusohrasah, javoprodhah, krechhvyavayt, daurbayam, daurgandhyam, swedabadaha, kshudatimatra and pipasaatiyoga. Each group was further divided into three subgroups; A (oral), B (Niruh vasti) and C (Placebo) according to mode of drug administration. LMD was prepared using 10 drugs (Cyprus rotundus, Saussurea leppa, Curcuma longa, Berberis aristata, Acorus colames, Aconitum heterophilum, Ticrorhiza kurra, Plamcadozeylanida chirbilya, Anncraipalia, Aris tnsata). Various statistical techniques, such as descriptive statistics, ANOVA followed by Duncan's multiple-range test and t-test were used to investigate data. Results of ANOVA clearly indicate a statistically significant ($P < 0.01$) effect of mode of drug administration on all parameters excluding thyroid parameters. Higher percentage of obese patients showed normal serum cholesterol, lipid profile, skin fold measurement and BMI when treated through niruh vasti mode of administration as compared to that of placebo and oral mode of treatment. In conclusion, treatment of obesity varies according to its mode of interventions. Further extensive investigation is mandatory to have a deeper insight into this phenomenon. **[PA-183]**

Keywords: obesity; lekhniya mahakashaya dhanwati; oral treatment; niruh vasti treatment

Antifungal Activity and Skin Toxicity Study of Koshamra (*Schliechera oleosa* (lour) oken) w.s.r. to Dandruff

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The objectives of this study are: (1) to collect and compile Ayurvedic and modern literature on Koshamra; (2) to collect and compile Ayurvedic and modern literature on Dandruff; (3) to evaluate the antifungal activity (in vitro) study of Drug Koshamra; and(4) to evaluate the skin toxicity study of drug Koshamra in animals. There was a limitation in this study, i.e. above 20% concentration, Koshamra seed oil cannot emulsify with the me-

dia. The study concludes that (1) Koshamra seed oil is not effective against fungi P. ovale and *C. albicans* at 0.1%, 1% and 10% concentration of oil in comparison with standard drug (Nizral 2%). (2) In skin toxicity study, there are no signs of skin irritation by application of Koshamra oil in Wistar rats. So it is safe for external application. **[PA-326]**

Keywords: *C. albicans*; Koshamra; Wistar rats

Evaluation of Kaktinduka Vati and Nagaradi Churna in Vincristine-induced Painful Neuropathy in Rats

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The present study was designed to investigate the effect of kaktinduka vati and nagaradi churna in vincristine-induced neuropathic pain in rats. The pin prick, cold immersion, hot plate and hot immersion tests were performed to assess the degree of mechanical and cold hyperalgesia, heat hyperalgesia and allodynia, respectively. The nerve thio-barbituric reactive substances (TBARs) and reduced glutathione were measured as the marker of oxidative stress. Kaktinduka vati (4 mg) and nagaradi churna (47 mg) were administered for 21 days after vincristine (50 µg/kg i.p) administration. Administration of kaktinduka vati and nagaradi churna attenuated vincristine-induced mechanical, cold and heat hyperalgesia. Both the drugs also decrease oxidative stress, but amelioration in behavioral parameter is more significant in kaktinduka vati. It may be concluded that kaktinduka vati and nagaradi churna have ameliorative potential in attenuating the painful state associated with vincristine, which may be further attributed to anti-oxidative potential of both formulations. **[PA-328]**

Keywords: vincristine; painful neuropathy; amelioration; oxidative stress

Preclinical Studies of Anti-Atherosclerotic and Anti-Diabetic Potential of Ayurvedic Drug Murraya koenigii Linn. Seeds and Its Isolated Crude Sapogenins in Experimental Rats

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Cardiovascular disease is a major cause of death globally and is projected to remain the leading cause of death. An estimated 17.5 million people died from cardiovascular disease in 2005, representing 30% of all global deaths. Of these deaths, 7.6 million were due to heart attacks and 5.7 million were due to stroke. Around 80% of these deaths occurred in low- and middle-income countries (LMIC). If appropriate action is not taken, by 2015, an estimated 20 million people will die from cardiovascular disease every year, mainly from heart attacks and strokes. Ethanolic extract of seeds (100 and 200 mg/kg body weight) of Murraya koenigii as well as sapogenins (10 mg/kg body weight) isolated from its seed were investigated for lipid lowering activity on triton-induced and high fat diet–induced model. Serum lipids were found to be lowered in both models, and data were analysed statistically significant. In acute studies of triton-induced model, ethanolic seed extract (100 and 200 mg/kg body weight) decreases serum total cholesterol, triglyceride and LDL-cholesterol levels by 29.69% and 36.30%, 48.74% and 54.27%, 40.17% and 53.51%, respectively. Isolated sapogenins (10 mg/kg body weight) decreases serum total cholesterol, triglyceride and LDL-cholesterol levels by 29.42%, 39.57% and 43.41%, while HDL level increase in ethanolic extract with above dose was 5.13% and 9.36%, and in case of sapogenins it was found to be 3.79%. In chronic studies of high fat diet–induced model, ethanolic extract of seeds (100 and 200 mg/kg body weight) decreases serum total cholesterol, triglyceride and LDL-cholesterol levels by 41.19% and 47.92%, 31.15% and 39.85%, and 58.79% and 68.18%. In case of sapogenins (10 mg/kg body weight), decrease was 47.91%, 32.09% and 71.63%. Increase in the level of HDL-cholesterol in ethanolic extract (100 and 200 mg/kg body weight) and sapogenins (10 mg/kg body weight) was found to be 62.43%, 73.92% and 82.18%, respectively. The seed extract of Murraya koenigii not only decreases lipid profile but also decreases the value of serum glucose in the same dosage regimen as 21.54% and 27.48%, and its sapogenin decreases the level as 20.49%. Our study also revealed that the sapogenins are major contributors of the observed lipid-lowering activity as well as anti-diabetic activity and thus may be suitable drug candidates worthy of pharmaceutical investigation. **[PA-333]**

Keywords: atherosclerosis; hyperlipidemia; anti-diabetic; triton-induced; high fat diet-induced model; Murraya koenigii; sapogenins

Evaluation of Safety and Efficacy of a Herbo-Mineral Formulation in Benign Prostatic Hyperplasia (BPH)

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Benign prostatic hyperplasia (BPH) is one of the most prevalent geriatric health problems. In the present health scenario, patients have only few options. Currently available allopathic medicines have strong side effects. Surgery which is considered as the treatment of choice is not well tolerated by old age people and recurrence is also common. The study was an attempt at formulating an ideal drug for the condition and to evaluate its safety and efficacy. The newly developed formulation is safe and efficacious in the case of BPH. The formulation was a combination of Laghu Lokeswara Rasa in bhasma form combined with aqueous extract of Vasthyamayanthaka Ghritha Yoga in a definite proportion. The medicine was dispensed as 500 mg capsules. A quasi-experimental study was conducted at

Government Ayurveda College, Thiruvananthapuram, in a group of 20 patients who volunteered for the study who satisfied inclusion criteria and exclusion criteria. For clinical assessment of the efficacy of the new drug, reduction in the volume of prostate as evidenced by ultrasound scan was fixed as the primary outcome, and reduction in the International Prostate Symptom Score (IPSS) index approved by WHO as secondary outcome. The outcome evaluations were statistically analysed. X-ray diffraction studies were carried out at Regional Research Laboratory (RRL) to detect the chemical nature of the drug. Atomic absorption spectra (AAS) studies were carried out in ISRO to find out the heavy metal content in the final product, and chemical evaluations were done to standardize the drug. The results obtained are as follows: X-ray diffraction studies and chemical analysis revealed the presence of $CaCO_3$ (92.8%) and sodium borate (7.2%), which are two safe compounds. AAS studies revealed the presence of 1300 ppm of mercury in the mineral component and only 1–2 ppm of mercury in the newly developed formulation, which proves that the modification has considerably reduced the mercuric content, which makes the new formulation more safe and acceptable. At the same time, the herbal component in the formulation acts as a vehicle in bringing the mineral drug into the urogential system and thus increases its bioavailability. Coming to the clinical evaluation, reduction in prostate volume assessed by ultrasound scan and reduction in the symptoms assessed by IPSS were statistically highly significant. **[PA-346]**

Keywords: benign prostatic hyperplasia; geriatric; atomic absorption spectra; X-ray diffraction; International Prostate Symptom Score

Dissolution of Kidney Stones with the Treatment of *Schouwia purpurea* (Forssk.) Schweinf Leaves in Experimental Animals *In Vivo*

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Formation of stones in kidney is a complex process, which is the result of a cascade of events, including crystal nucleation, growth, and aggregation and crystal retention within the renal tubules. Under appropriate conditions, retained crystals evolve into stone. A number of animal models have been developed in efforts to understand the mechanisms involved so that therapeutic agents can be developed and their efficacy can be tested. We have used 0.75% ethylene glycol-induced urolithiasis in mice. A 0.75% ethylene glycol was administered through water ad libitum for 30 days. After 30 days, urine analysis showed the presence of oxalate crystals when observed microscopically. X-ray photography of the 0.75% ethylene glycol-dosed animals showed the presence of kidney stones. In rural Rajasthan, *Schouwia purpurea* (Forssk.) Schweinf (*S. purpurea*), a plant from Brassicaceae family, is used traditionally for the treatment of kidney stone. In this study, the efficacy of S. purpurea leaves against kidney stone was studied. The green leaves (wet leaves) were churned into paste and administered orally at a dose of 650 mg/kg for 7 days. After 7 days, the urine analysis was conducted and showed reduction in the number of crystals when observed microscopically. The X-ray photography following *S. purpurea* treatment showed absence of kidney stones. **[PA-357]**

Keywords: kidney stones; *Schouwia purpurea*

Clinical Evaluation of 'Bharangi-Nagaradi Yoga' and Herbal Nebulizer in the Management of Bronchial Asthma w.s.r. to Tamak Shwasa

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Asthma is one of the most prevalent chronic health conditions among children and adults. There is a noticeable increase in health care burden from asthma in several areas of the world. The increasing mortality rates and hospitalization related to asthma are a major cause of concern for physician. Cases of asthma are increasing at a rate of 50% every decade, and according to WHO by the year of 2020, asthma along with COPD will become the third leading cause of death. Since the management of bronchial asthma with the modern medicine is purely temporary and at times associated with serious toxic effects therefore considering the demand of the society and taking the responsibility, it was decided to evaluate certain Ayurvedic management for chronic persistent asthma as well as acute stage of bronchial asthma which is safe, effective, cheap and readily available. Drugs used in Bharangi nagaradi yoga are deepan paachan, srotoshodhak, kaphanashak and vatanulomak. Drugs used in herbal nebulizer are vata and kaphanashak and also anti-inflammatory, antihistaminic and bronchodilator effects are thus effective in bronchial asthma. A total of 30 patients with bronchial asthma were registered and randomly divided into three groups. The 10 patients in Group 1 were given Bharangi nagaradi yoga 30 ml bid with honey in decoction form. In Group 2, the 10 patients were given herbal nebulizer in dose of 2.5 ml bid. In Group 3, the 10 patients were administered modern nebulizer. The results of this study show that Bharangi nagaradi yoga and herbal nebulizer were found to be effective as the main therapeutic agent in the management of chronic persistent asthma as well as acute attack of asthma. **[PA-366]**

Keywords: Bharangi nagaradi yoga; Nebulizer; Deepan paachan; Srotoshodhak; Kaphanashak; Vatanulomak; Tamak Shwasa

Hypolipidaemic and Anti-Atherosclerotic Potential of Various Extracts of Prominent Thar Desert Plant Capparis decidua in Cholesterol Fed Rabbits

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Capparis decidua is a xerophytic shrub, commonly known as Ker. This study was carried out to determine the hypolipidaemic and anti-atherosclerotic medicinal effect of feeding of *C. decidua* plant extracts in cholesterol-fed rabbits. For this study, ethanol (50%) extract of *C. decidua* fruit, flower, shoot and bark was used. Atherodiet and cholesterol feeding for 60 days induced hyperlipidaemia in rabbits. The rabbits were divided into six

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groups and these groups were fed with standard laboratory diet (Group 1), atherodiet and cholesterol (400 mg/kg body wt.; Group 2), and rabbits of Groups 3–6 were fed with atherodiet, cholesterol feeding and *C. decidua* fruit, flower, shoot and bark extracts at the dose of 500 mg/kg body weight, respectively. The histology of thoracic aorta was performed after completion of experiment. The atherodiet and feeding to rabbits (Group 2) resulted in the formation of plaques in aorta. This is characterized by thickened intima, cell proliferation, collagen and lipid deposition. Calcification of tunica media was conspicuous with abundance of foam cells. Lumen of aorta became narrow. Simultaneous feeding of atherodiet and *C. decidua* fruit (Group 3), flower (Group 4), shoot (Group 5) and bark (Group 6) extracts resulted in the prevention of plaque and fatty streak formation. In conclusion, it is suggested that all the four extracts of C. decidua have anti-atherosclerotic potential, but *C. decidua* fruit and flower extracts are found to be more potent in preventing plaque formation. The use of these extracts could be useful in the management of cardiovascular disease in which atherosclerosis is important. **[PA-430]**

Keywords: *C. deciduas*; cardiovascular disease; anti-atherosclerotic

Bombax ceiba Root Powder: a Herbal 'Polypill' for Patients with Increased Cardiovascular Risk

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The objective of this study is to evaluate the effect of *Bombax ceiba* Linn. (Semal) root powder on various coronary risk factors in patients with ischemic heart disease (IHD). Semal root powder is ethnomedicinally recommended for diabetes and heart disease and has components that affect many cardiovascular risk parameters in animal and in in vitro experiments. The study was conducted in two groups of stable IHD patients with or without type 2 diabetes. Group I (n = 20) IHD patients without type 2 diabetes and Group II (n = 15) IHD patients with type 2 diabetes, uncontrolled on OHA. Fasting blood samples were collected both before and after 4, 8 and 12 weeks administration of 3 g of root powder for the estimation of blood sugar, lipid profile, fibrinogen, fibrinolysis and total antioxidant status (TAS). The results reveal that supplementation of 3 g *B. ceiba* root powder in Group II demonstrated a significant ($P < 0.02$) reduction in blood sugar at 4 and 8 weeks. There was a significant decrease ($P < 0.05$) in fibrinogen and increase in fibrinolytic activity and TAS ($P < 0.01$ in Group I and $P < 0.05$ in Group II). Lipid profile improved favorably with reduction in atherogenic index in both the groups. There were no significant side effects. To conclude, the study has for the first time validated scientifically the effect of *B. ceiba* root on modification of multiple coronary risk parameters in man. It might prove to be a useful 'natural polypill' for such vulnerable people. **[PA-503]**

Keywords: silk cotton tree; diabetes; atherogenic index; coronary risk factors

Effect of *Ipomoea digitata* Tuber (Ksheervidari) on Blood Pressure and Some Coronary Risk Factors in Man

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The main objective of this study is to evaluate of *Ipomoea digitata* Linn. (Ksheervidari) tuber powder for its effect on blood pressure, blood lipids, fibrinolytic activity and total antioxidant status (TAS) in patients with newly diagnosed stage 1 hypertension. Ksheervidari is ethnomedicinally recommended for high blood pressure and heart disease. The present study is its therapeutic validation in patients with hypertension on some coronary risk factors. Fifty newly diagnosed individuals with stage 1 hypertension were randomly categorized into two groups. Group I (n = 30) was administered 3 g of tuber powder in two divided doses for 12 weeks and Group II (n = 20) received matched placebo. Blood pressure was recorded initially and at 4 weeks interval, and fasting blood samples were collected for estimation of lipid profile, fibrinolysis and TAS. Three gram tuber powder significantly ($P < 0.001$) decreased systolic, diastolic and mean blood pressure and increased fibrinolytic activity at the end of 12th week. TAS was significantly ($P < 0.001$) increased by 103%. Serum cholesterol, LDL-C and atherogenic index were also significantly ($P < 0.05$) reduced at the end of the study. It was tolerated well without any significant side effect. Placebo group, however, did not show significant alteration in any of the parameters. To conclude, Ksheervidari significantly lowers blood pressure and blood lipids, enhances fibrinolysis and improves antioxidant status in stage 1 hypertensive individuals without any side effects. **[PA-515A]**

Therapeutic Validation of *Ipomoea digitata* Tuber (Ksheervidari) for its Effect on Cardiovascular Risk Parameters

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Ipomoea digitata Linn. (Ksheervidari) is a well-known medicinal plant used in Ayurveda for its health-promoting effects in human beings. Its tuber powder was evaluated first time in a single-blinded, placebo controlled study for its antihypertensive potential and its effect on lipid profile, fibrinolytic activity and total antioxidant status in individuals with stage 1 hypertension. Administration of 3 g tuber powder significantly ($P < 0.001$) decreased systolic, diastolic and mean blood pressure, increased fibrinolytic activity and total antioxidant status with a significant reduction ($P < 0.05$) in serum total cholesterol, LDL cholesterol and atherogenic index at the end of 12 weeks. It was tolerated well without any

significant side effect. In the placebo group, there were no significant alterations in any of the parameters at the end of study. **[PA-515B]**

Keywords: hypertension; Bhumi-kushmanda; fibrinolysis; antioxidant

Immuno-genicity and Immuno-adjuvanticity of a Purified Protein from the Medicinal Herb, Guduchi (*Tinospora cordifolia*)

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Guduchi is used in folk/Ayurvedic medicines; various phytochemicals and polysaccharides have beneficial effects on the immune system. Immuno-modulatory proteins (ImPs) have not been described. The objectives of this study are to investigate the immuno-genicity and immuno-adjuvanticity of an ImP isolated from guduchi. A 32 kD protein displaying lympho-proliferative activity was purified from stem extract. Immuno-genicity was evaluated by monitoring serum IgG response in BALB/c mice (intranasal). For adjuvant activity, ovalbumin (OVA, 30 μg) as a test antigen was co-administered with guduchi ImP (30 μg) intranasally. Serum anti-OVA IgG response was measured on days 14, 35 and 50. Control group received PBS. Results reveal that a two-fold increase in anti-guduchi ImP response was seen on the days mentioned ($P < 0.005$ vs. control). Murine IgG responses to OVA and control group were similar. However, serum IgG response in the co-administered group showed four- and six-fold anti-OVA IgG response ($P \leq 0.005$) versus OVA group on the 34th and 50th day, respectively. To conclude, higher serum IgG response to guduchi ImP group versus OVA group indicates that guduchi ImP is a strong humoral immunogen. Higher anti-OVA IgG response in the co-administered group indicates that guduchi ImP possesses immuno-adjuvanticity in enhancing the IgG immune response of co-administered weak antigens. **[PA-547]**

Keywords: adjuvanticity; guduchi; immuno-modulation; protein immuno-modulator; Tinospora cordifolia

Clinical Efficacy of Pandughani Vati in the Management of Pandu w.s.r. to Iron Deficiency Anaemia

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Iron deficiency is the commonest nutritional deficiency all over the world, and its prevalence is highest in Indian population. According to a survey conducted by API, 30% adult males, 45% adult females, 80% pregnant females and 60% children in India are suffering

from anaemia, especially iron deficiency anaemia. Most of the clinical presentations of iron deficiency anaemia are quite similar to Pandu, a Rasa Pradoshaja Vikara described by Acharya Charaka. Therefore, the management of the disease is one of the top priorities in health care plans of Government of India. World Health Organization has also taken it in one of its programmes. In this study, 14 patients coming under inclusion criteria of iron deficiency anaemia were included for the trial drug Pandughani Vati. In all the patients, serum ferritin, TIBC, serum iron, blood indices and Hb% along with the relief in sign and symptoms of Pandu were assessed. Marked improvement was observed in the subjective parameters, but not much improvement was observed on objective parameters; the reason may be improper dose and duration of the trial drug. **[PA-559]**

Keywords: anaemia; iron deficiency; pandu; pandughani vati

Role of Yahstimadhu in Improvement of Medha

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At present, each person and scientist is busy with such experiments to achieve high intellect and powerful mind. Ayurvedic System of Medicine has mentioned several naturally occurring medicinal plants under the category 'Medhya' that induces mental upliftment as major influence. A few works have been done on the concept of Medha and Manas till today. Hence, the study was carried out to describe the applied concept of Ayurvedīya Mano-Vijnana, to assess Medha on classical direction and effect of Medhya Rasayana on Medha. The subjects of the study were physically healthy volunteers between the age group of 16 and 25 years. They were treated with Yashtimadhu (A Medhya Rasayana) granules. For the assessment of Medha, PGI Memory Scale—Recognition Cards of National Psychological Corporation, Agra, was adopted. Result showed 4.41% improvement in Medha which is statistically highly significant (<0.01). This paper discusses the study results in detail. **[PA-564]**

Keywords: manas; medha; medhya rasayana

Evaluation of Ayurveda Drug Biological Actions

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Ayurveda approach in all aspects is holistic, system biology. i.e. a comprehensive one and not reductionist. In Ayurveda view drug means any Draya—material used in therapy as medicine. The allopathic approach is reductionist, we can say one molecule, one target and one symptom or disease, evaluation of any drug is carried out in the same way. Such an approach is not proper considering the basic philosophy and practices of Ayurveda. The

Ayurvedic drugs are in many dosage forms (more than 20) such as simple juice, paste, decoction, powder, medicated oil, medicated ghee, tablet, pills, etc. The formulation may be single or compound such as poly-herbal, herbo-mineral or herbo-metalic. All these forms contain many active biomolecules, and each molecule may have different action. Any single herb having more than thousand phyto-chemicals among these few may be more active having varied actions. This fact is reflected in Ayurveda, as single herb is described having many activities and also used for many concerned conditions in practices. The drugs prescribed in Ayurvedic practices are always advised to consume with some vehicles like water, hot water, milk, honey, etc. Apart from this, a particular type of food is also advised to consume and some other type is advised to avoid. Such regimen along with medicine is usual in practice. There are some common chemical constituents present in majority of the plants and is having therapeutic and nutritive values. The common chemicals present in plants may be alkaloids, saponin glycosides, cardenolides and bufadionolides, flavonoids, tannins and polyphenolic compounds, anthraquinones, cyanogenic, glycosides, carbohydrates, fixed oils, fats, and volatile oils, minerals and metals. In revalidation or validation of Ayurvedic drug that may be single or compound, it should be validated in comprehensive approach. In validation, all the dosage forms are to be validated as each dosage form is having specific indication with varied actions although the main material may be same. The bioavailability of each form may be different. The Ashwagandha (*Withania somnifera*) is available in many dosage forms, but indication and actions are different due to the presence of active fractions—chemicals. The Ashwagandha in powder form may exhibit the presence of maximum phytochemicals. In Ashwagandha ghee, predominantly fat soluble phytochemicals will be present and due to this the indication and action will be different. Drug should not be routine as to day in practice but should be modified/designed comprehensively taking into consideration of ancient Ayurveda textual described actions/properties and bioactive fractions present in the dosage form. In vitro and in vivo, the method may be a little different. In animal testing, the Ayurvedic drug along with the Anupan (vehicle) and as per prescribed total caloric diet, the Ayurvedic diet of same caloric value is to be advocated along with the drug. The validation in such a way may reveal or prove the textual bioactions and more of Ayurveda drug. **[PA-568]**

Keywords: phyto-chemicals; system biology; dosage forms; biomolucules; anupan

Efficacy of Flower Petals of Rosa damascena Mill. as Anti-Caries Agent Against Biofilm and Plaque Formation of Oral Pathogen

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The polyphenols and essential oil present in the flower petals of *Rosa damascena* Mill. may have a role in the prevention of cariogenic processes, due to their antibacterial action. Based on this fact, this study was conducted to evaluate the effect of flower petals of *R. damascena* Mill. against dental caries causing pathogenic bacteria, especially *Streptococcus mutans*. In this study, the anti-caries activity of water extract of flower petals was evaluated using in vitro methods such as antibacterial effect by Paper disc method, inhibition of biofilm formation by specific biofilm formation assay and plaque formation activity by nichrome wire method against both pure strain and clinical isolate of S. mutans. It was

found that at 100 µg/ml concentration, the extract showed 20.66 ± 1.52 mm clear zone of inhibition, 73.5 ± 0.48% and 84 ± 0.23% inhibitory effect on biofilm and plaque formation, respectively. The results were found significant by comparing with chlorhexidine (standard drug). This work may help a man to make use of juice or decoction of the flower petals of *R. damascena* Mill. as home remedies in the form of mouth rinse in his daily life to prevent or eradicate tooth caries. **[PA-603]**

Keywords: *Rosa damascena* Mill. *Streptococcus mutans*; Biofilm formation

A Comparative Study on Effect of Garlic and Coriander on Proximate Composition and Physicochemical Parameters of Chicken Product

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Chicken products were prepared to evaluate the effects of garlic and coriander on proximate composition and physicochemical parameters during refrigeration storage (4 ± 1°C) on days 0, 3, 7, 14 and 21. Based on the mean scores of sensory evaluation of chicken products treated with different concentrations (2%, 3% and 5% w/w) of coriander and garlic, 3% w/w garlic and 3% w/w coriander treatment were selected as the best concentration for further study. pH, emulsion stability, cooking loss and proximate composition of control and treated samples were evaluated. Garlic and coriander showed highly significant ($P < 0.01$) impact on the proximate composition of chicken products, but there was no significant effect of storage period on the moisture, protein, fat and total ash content during refrigeration storage. pH showed an increasing trend ($P < 0.01$) at the early part of storage up to 7 days, and thereafter decreased gradually in all the treatment groups and control. The emulsion stability and cooking yield were found to be highest for garlic-treated chicken sausage followed by coriander and control. **[PA-620]**

Keywords: chicken sausage; garlic; coriander; proximate composition; refrigeration storage

In Vitro Study on Antimutagenic Property of Vatashunga (Leaf Buds of *Ficus benghalensis* Linn.) in Females with Recurrent Abortions

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Incidence of abortion in all confirmed pregnancies is probably higher because some very early abortions are mistaken for a late menstrual period. In Ayurveda, the roles of drugs mentioned in pumsavana karmas (to prevent abortions, to determine the sex of child and for the proper development of fetus) have to be revealed for a better interpretation and also

to apply it in treatment. Proved antioxidant property of the study drug also gives a clue on its level of action. An in vitro study is undertaken with vatashungam (leaf buds of *Ficus benghalensis*). The objectives of this study are to evaluate the extent of somatic DNA changes, induced by vatashungam in lymphocytes of females with recurrent abortions and to evaluate the anti-mutagenic activity of vatashungam in human lymphocytes using cytokinesis block micronuclei assay (CBMN). The paper discusses the results of this study. **[PA-637]**

Keywords: *Ficus benghalensis*; antioxidant property; antimutagenic

Evaluation of the Anti-Hyperlipidemic Activity of Oryzanol, Isolated from Crude Rice Bran Oil, on Triton WR-1339-Induced Acute Hyperlipidemia in Rats

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Experimental studies carried out for evaluating the anti-hyperlipidemic properties of rice bran components have given interesting but often contrasting results. The objectives of this study are to develop and optimize a simple technique for isolating oryzanol, a commercially important bioactive phytochemical from crude rice bran oil (cRBO), followed by the evaluation of its anti-hyperlipidemic activity. Oryzanol was isolated by a two-step solvent crystallization process from cRBO, which was extracted from fresh rice bran by hexane-mediated soxhlet extraction. Subsequently, oryzanol (100 and 300 mg/kg. p.o.) was evaluated for anti-hyperlipidemic activity in Triton WR-1339-induced acute hyperlipidemic albino rats by estimating serum triglyceride, phospholipids, total cholesterol, very low density lipids (VLDL), low-density lipids (LDL) and high-density lipid (HDL) levels with atorvastatin as the reference standard. The degree of protection was also assessed by measuring the levels of various hepatic antioxidant enzymes. The results show that oryzanol evoked a significant decrease in the levels of serum cholesterol, phospholipids, triglycerides, LDL and VLDL, and a significant increase in the level of serum HDL and hepatic antioxidant enzymes. It also showed a significant ameliorative action on elevated atherogenic index (AI) and LDL/HDL-C ratios. To conclude, these findings indicate that oryzanol possesses the potential to lower plasma lipid concentrations and might be of therapeutic benefit in hyperlipidemia and atherosclerosis. **[PA-666]**

Keywords: rice bran oil; isolation; oryzanol; antibody titre; phagocytic activity

Anti-Inflammatory Activity of Commonly Available Weed Dronapushpi (*Leucas aspera* Spreng.): an Experimental Study

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Dronapushpi is known for its Shotahara property, and it is mentioned in Sharangadhara Samhita as Vishamajwarahahara. This drug is easily available as a weed in crop fields, and it may replace the other anti-inflammatory drugs which are under threat. This study was conducted to evaluate the anti-inflammatory activity of Dronapushpi Swarasa (*Leucas aspera* Spreng.) of Lamiaceae. Fresh juice of Dronapushpi collected from natural habitat was used as a test drug. Anti-inflammatory activity was studied using carrageenan-induced rat paw edema using plethysmograph. Male Wistar strain rats weighing between 150 and 200 g were divided into three groups of six animals each. First group served as control received distilled water with *Gum acacia*. Second group administered with standard drug aspirin with dose of 100 mg/kg p.o. suspended in 2% *Gum acacia*. Third group administered with freshly prepared juice of leaves of Dronapushpi (L. aspera Spreng.) in the dose 4.8 ml/kg. Volume of paw edema was measured at 1, 2, 4, and 6 h. Data were analysed with ANOVA and post-hoc test. Results concluded that freshly prepared juice of leaves of *L. aspera* Spreng. possesses significant ($P < 0.05$) anti-inflammatory activity against carrageenan-induced rat paw edema in comparison to control and standard group. **[PA-686]**

Keywords: anti-inflammatary; Dronapushpi; *Leucas aspera* Spreng

Isolation and Identification of 5-Formyl-2,3-Dihydroisocoumarin from the Leaves of Folk Medicinal Plant *Enicostemma axillare* (Lam.) Raynal

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The plant *Enicostemma axillare* Lam. Raynal (*Gentianaceae*), growing all over India, is known as 'Nagajihva' or 'Mamejava' in Ayurveda. It is known in Ayurveda for the treatment of dyspepsia, flatulence, colic, helminthiasis, constipation, dropsy, swellings, vitiated conditions of kapha and vata, hepatopathy, glycosuria, leprosy, skin diseases, pruritus intermittent fever and malaise. The plant is also used in folk medicine to treat various diseases. From the methanolic extract of leaves of E. axillare, an isocoumarin is isolated. Its structure is established by spectroscopic means (EIMS, FT-IR, 1H and 13C NMR, COSY, HSQC and HMBC spectroscopy) as 5-formyl-2,3-dihydroisocoumarin. This compound has been isolated for the first time from this genus. The antibacterial activity of this compound has been checked by agar well diffusion method against the pathogenic bacterial strains of

Proteus mirabilis, Bacillus subtilis, Escherichia coli and *Staphylococcus aureus*. This compound shows antibacterial activity against all the organisms tested and found zone of inhibition in between 10.0 ± 0.00 and 11.66 ± 0.47 cm at 1 mg/ml concentration. The results obtained in this study confirm the antimicrobial potential of *E. axillare* leaves and its usefulness in the treatment of diseases that may be caused as a result of infection. **[PA-721]**

Keywords: *Enicostemma axillare*; antimicrobial activity; 5-formyl-2,3 dihydroisocoumarin; isocoumarine; phenolic compounds

Effect of Kulitth-yush, with Trikatu and Souring Agents on the Growth of Calcium Hydrogen Phosphate Dihydrate Crystals *In Vitro*

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Nearly 15% of the Indians suffer from urolithiasis that is characterized by high recurrence. In Ayurveda, use of kulitth/horsegram-yush (soup-like preparation) as a pathya is recommended for the treatment of urolithiasis. The present study examined the effect of kulitth-yush on growth inhibition of brushite (calcium hydrogen phosphate dihydrate) crystals, using the single diffusion gel growth technique in vitro. Kulitth-yush was prepared with brown and red horsegram as per the method given in Sharngadhar samhita. The yush significantly inhibited crystal growth by 30.6% (brown horsegram) and 21.1% (red horsegram) more than 11 days, whereas there was no reduction in the control and only marginal reduction with deionized water. Addition of trikatu (Piper longum, Piper nigrum and Zingiber officinale, 1:1:1, w/w), salt and souring agents viz. citric and tartaric acids, lemon juice, tamarind and kokum extracts to the yush enhanced growth inhibitory effect. Yush with tamarind, 2.34%, was most effective in inhibiting crystal growth (53%). There is a need to explore the use of kulitth-yush as an anti-urolithiatic agent. **[PA-732]**

Keywords: urolithiasis; kulitth-yush; brushite crystals; trikatu; souring agents

Pathomorphological and Biochemical Evaluation of Hypoglycemic Effect of *Momordica charantia* and *Gymnema sylvestre* in Streptozotocin-induced Diabetes in Rats

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The pathomorphological and biochemical evaluation of hypoglycemic effects of *Momordica charantia* and *Gymnema sylvestre* was investigated in streptozotocin-induced diabetic rats. The alcoholic extracts of *M. charantia* (200 mg/kg) and *G. sylvestre* (100 mg/kg) were administered individually and in combination and compared with an oral hypoglycemic standard drug, glibenclamide, for a period of 45 days. There was a significant ($P \leq 0.001$) difference in the physiological and biochemical parameters of diabetic rats such as body weight, haemoglobin, serum glucose, cholesterol, triglyceride, ALT, AST and serum insulin except creatinine, as compared to normal control rats. Both M. charantia and G. sylvestre gradually and progressively alleviated the effects of streptozotocin in diabetic animals. However, the response produced by the *M. charantia* extract was found to be better than the G. sylvestre and the combination of extracts. There was no synergistic effect observed among the herbal extracts. Herbal extract-treated groups both individually and in combination showed an improvement in the histopathology of islets of Langerhans in the form of regeneration and repair of β-cells. *M. charantia*, *G. sylvestre* and the combination of extracts improved the streptozotocin-induced microscopic pathology of liver. The alcoholic extracts exhibited significant hypolipidaemic and hepatoprotective effects individually and in combination in addition to the hypoglycemic effects. **[PA-734]**

Keywords: *Momordica charantia; Gymnema sylvestre*; glibenclamide; β-cells; streptozotocin

Clinical Study of 'Sal' (*Shorea robusta*) in Vrana Ropana (Wound Healing)

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During this fast life, every person is affected by some or the other injuries due to trauma; either it may occur on roads with some weapons, in office or even in kitchen while doing household work. After going through different texts, it has been found that resin of *Shorea robusta* has been described to have good healing property. Thirty patients fulfilling the inclusion criteria of wound were randomly selected from OPD/IPD, Department of Shalya, GACH, Patna. Dressing of the wound with the above drug was done to the subjects. The results were assessed in pre- and post-treatment designed proforma. In this group, bleeding was completely relieved, whereas >80% relief was obtained in pain, tenderness and size. Symptoms such as itching sensation, colour, surface, smell and discharge were relieved up to 50%–75%. The statistical data and details are discussed in the full paper. **[PA-840]**

Keywords: Sal; Vrana Ropana

A Comparative Study of Curcumin and Soluble Curcumin as Antioxidant, Anti-Inflammatory and Platelet Aggregation Inhibitors

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Curcuma longa Linn. is a reputed anti-inflammatory Ayurvedic plant. However, there is a controversy on the systemic bioavailability of its active principle (curcumin-CUR). This has led to diverse attempts to develop modified forms of curcumin. Soluble curcumin is modified in microsized (60–120 nm) polymer matrix, which is expected to be more bioavailable. The aim of this study is to compare the antioxidant, anti-inflammatory and platelet aggregation inhibition activity of CUR and S-CUR. The in vitro models used are: (1) sodium nitrite-induced haemoglobin oxidation; (2) anti-inflammatory activity using macrophage activation with lipopolysaccharide and tumour necrosis factor α (TNF-α); (3) platelet aggregation inhibition using standard aggregating agents such as arachidonic acid and collagen. Results indicate that S-CUR shows antioxidant and anti-inflammatory activity at lower concentrations than CUR. The antioxidant activity of S-CUR is obtained in the range of 5–20 μM, whereas CUR is active in the range of 20–60 μM. The anti-inflammatory activity studied in macrophage model showed a complete inhibition of TNF-α release by S-CUR at 30 μM. At 30 μM, CUR inhibited TNF-α release only by 70%. The difference was not significant in platelet aggregation inhibition model when standard aggregating agents were used. Our group has also shown cytotoxic activity of S-CUR at lower IC50 in Glioma cell line. This increased activity of S-CUR in various models could be due to higher cellular concentration of S-CUR as shown in the glioma cell line. **[PA-884]**

Keywords: anti-inflammatory; antioxidant; platelet aggregation; curcumin; soluble curcumin

Safety and Efficacy of Classic Arsenic Compounds in Rasayoga

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Arsenic has diverse chemical behavior in the natural environment. It has the ability to readily change oxidation state and bonding configuration, which creates rich inorganic and organic chemistry. With wide range of the compound formation, the therapeutic benefits and utilities also vary considerably forming the basis of this discussion. The objective of this study is to ensure the safety and efficacy of arsenic-containing classical rasayogas. Hypothesis is that classical shodhana etc. procedures nullify the toxic effect of arsenic and

hence it is safe. Retrospective data were collected and analyzed w.s.r to analytical, experimental, and clinical trials. Results are as follows: (1) 10–20 times the therapeutic dose of shuddha malla proved to be nontoxic; (2) karavellaka shodhita malla has shown significant analgesic activity on albino rats; (3) malla sindoora was statistically significant in decreasing the pain in gridrasi; (4) talakeshwara rasa was significant in vicharchica cases; (5) shila sindoora was effective on tamaka shwasa; (6) Sedative hypnotic effect was seen experimentally. There was a statistically significant reduction in the latency of onset of sleep as well as prolongation of diazepam induced in shodhita manashila-treated animals. To conclude, the above data show that classically prepared arsenic compounds are experimentally, analytically, and clinically safe. The paper presents the details of this study. **[PA-956]**

Keywords: malla; toxicity

Evaluation of Polyherbal Formulation Ifex for its Antimicrobial Activity: a Clinical Report

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As per WHO, infection is defined as invasion and multiplication of microorganism in body tissues, especially causing local, cellular injury due to competitive metabolism, toxins, intracellular replication or antigen antibody response. URTI is a common infectious affliction in children/adults due to increasing urbanisation, poor sanitation and increased antimicrobial drug resistance, etc. Global perspective of URTI is out of 2.9 million people, one-fifth are in India and about 500,000 die from URTI every year and more than 1000 are infected everyday and 1 person every minute. 45 patients with antimicrobial drug resistance with throat infection, fever, and cold were administered Infex (contains Tulasi, Amrutha, Amalaki, Shirisha, Kanchanara) in the dose of 1 cap/tid for 5 to 7 days depending on the condition. Patients were permitted concomitant therapy like amrutarishta, Amrutha Satva, Tribhuvanakirti, etc. Throat swab before and after the study was conducted along with CBC, AEC and ESR. Study reveals that 80% of the subjects were free from the symptoms, 45% were proved negative for the pathogens (gram positive/gram negative) on throat swab. Culture and sensitivity test shows that Infex is sensitive to Gram positive/gram negative organism. Antimicrobial activity is in conformity with pharmacological studies and in vitro studies. **[PA-1088]**

Keywords: drug resistance, infection, URTI

Safety Evaluation of Mercury-based Ayurvedic Formulation (SIDH Makardhawaj) on Cognition and Oxidative Stress in Rats

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Heavy metal preparations (bhasma) have been used in the Indian system of medicine for centuries with claimed efficacy and safety. In addition to renal and hepatic toxicity, low dose of mercury causes CNS toxicity and cognition impairment. However, there is no systematic study to evaluate the safety of Sidh Makardhawaj. The objective of this study was to investigate the effect of Siddha Makardhawaj on cognition, acetyl cholinesterase (AchE) activity and oxidative stress parameters in rats. Sidh Makardhawaj was administered orally to male Wistar rats at a dose of 10 mg/kg for 28 days. Morris water maze, passive avoidance and elevated plus maze were used to assess cognitive function, rota rod for motor coordination. Results show that Siddha Makardhawaj did not produce any significant change (normal vs. Sidh Makardhawaj treated) in mean retention latency in passive avoidance test, mean distance travelled to reach platform in Morris water maze, transfer retention latencies of elevated plus maze and retention time on rota rod. There was no significant change (normal vs. Sidh Makardhawaj treated) in the rats brain MDA, GSH level, AChE activity in frontal cortex and hippocampus. To conclude, the findings of the present study suggest that Sidh Makardhawaj has no evident adverse effect on cognition. **[PA-1110]**

Keywords: Sidh Makardhawaj; cognition; mercury; oxidative stress

Protective Effect of *Bergenia ligulata* on Calcium Oxalate-Induced Changes in Experimental Urolithiasis

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Epidemiological data have shown that calcium oxalate is the predominant mineral in a majority of kidney stones. Therefore, this study critically evaluates the potential effectiveness of the hydro-alcoholic extract of rhizomes of Bergenia ligulata against ethylene glycol-induced hyperoxaluric model of urolithiasis using female Wistar rats. Simultaneous administration of 150 and 300 mg/kg body weight/day, p.o. of *B. ligulata* and standard drug cystone for 28 days along with ethylene glycol (0.75% v/v) prevented changes in urinary calcium, oxalate and phosphate excretion dose dependently. Blood samples were collected on 14th and 28th day of treatment, and serum was analysed for calcium, phosphorus, magnesium, sodium and potassium which shows significant changes. The increased deposition of stone-forming constituents in the kidneys of calculogenic rats was also significantly lowered by preventive treatment using hydro-alcoholic extract. The histopathological findings also showed signs of improvement after treatment with *B. ligulata*, indicating that the rhizomes of *B. ligulata* are endowed with anti-urolithiatic activity. Moreover, *B. ligulata* extract shows higher renoprotective index than cystone at the same dose level. **[PA-1121]**

Keywords: Bergenia ligulata; ethylene glycol; antiurolithiasis; calcium oxalate

Immunomodulatory and Antioxidant Potential of *Saraca asoca* (Roxb.) De Wilde Bark in Wistar Rats

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The immuno-modulatory and antioxidant effects of the ethanolic extract of *Saraca asoca* (SA) bark on rat mesenteric mast cells were studied in Wistar rats sensitized with egg albumin (1 mg per rat) intramuscularly. The results showed that significant immuno-modulatory effects were obtained in egg albumin-sensitized animals as evidenced by the decrease in antigen-induced degranulation of mesenteric mast cells in both in vivo and in vitro conditions. *SA* (100 µg/ml) showed significant activity (*in vitro*) on human red blood cell (HRBC) membrane stabilization. The extract showed potent inhibition of FeCl2-AA-stimulated rat liver lipid peroxidation in vitro by significantly decreasing malondialdehyde (MDA) levels in FeCl2-AA-treated rat liver homogenate, compared to controls with FeCl2-AA. Besides, *SA* also showed significant DPPH-free radical scavenging activity. The results of the present study thus reveals for the first time the immuno-modulatory and antioxidant potential of *SA* in inhibiting mast cell degranulation and lipid peroxidation and stabilizing HRBC membrane. **[PA-1186]**

Keywords: immuno-modulatory; antioxidant; lipid peroxidation; DPPH-free radical scavenging

Haemotological and Biochemical Evaluation of Narayana Chenduram in Wistar Albino Rats

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Siddha system of medicine is one of the ancient traditional systems of the world. It has developed a rich and unique treasure of drug knowledge in which metals and minerals are very much advocated. The metal is not used as it is, but after several alchemical operations such as calcinations and sublimation, it is converted into a form that is made bioavailable to the body. The output of such process is a fine powder called chenduram. In this study, narayana chenduram was selected and was prepared as per literature evidence. Narayana chenduram is indicated for several chronic diseases. The elements present in the final product were analyzed using ICP-OES and ensured the safety of the drug in acute and subchronic oral toxicity studies that were carried out in Wistar albino rats. To conclude, the elements present in the final product are found. No mortality was observed in both acute and subchronic oral toxicity studies. Although some differences were observed between control and drug-treated animals in hematological and serum biochemical parameters, no toxic effects were revealed. Pathologically, neither gross abnormalities nor histopathological changes were observed. **[PA-1200]**

Keywords: Narayana chenduram; Wistar albino rats

Validation of anti-colon cancer properties of tulasi (*Ocimum tenuiflorum*) using cell culture and Fisher 344 rats

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Tulasi or basil (*Ocimum tenuiflorum*) is known for a wide range of medicinal properties and is extensively used in Ayurveda. The potential of tulasi against colon cancer was validated in two separate experiments. In a cell culture experiment, methanolic leaf extracts of six species including tulasi and culinary basil were tested for cytotoxicity against Caco-2 cells; and in experiment 2, Fisher 344 rats with azoxymethane induced colon cancer were fed with diets containing 1 or 2% dried basil leaf powder and assayed for number of Aberrant Crypt Foci (ACF) and tumor growth. Methanolic leaf extracts of basil significantly inhibited the proliferation of Caco-2 cancer cells and the rate of inhibition was dose related. In experiment 2, the ACF in rats fed with 1% basil leaves ranged from 73-86 compared with 158 per cm colon in Control. The GST activity (µmol/mg) was significantly higher in rats fed with tulasi leaves compared to Control. The reduction in ACF was greater in rats fed with tulasi leaves than culinary basil leaves. There was a significant reduction in tumor growth in rats fed with 1 or 2% dry basil leaves. Leaves of basil, particularly, *O. tenuiflorum* may have chemopreventive potential against colon cancer.

Keywords: tulasi, basil, Ocimum, Caco 2 cells, anti-colon cancer.

The Nutritional Genetics of Plant-derived Bioactive Compounds

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Our research is focused on how plant-derived bioactive compounds are affecting gene expression, cellular structure and metabolism, and lifespan, oxidative stress and age of life. Several plant extract were tested (red beet, sour cherry, black currant, cranberry, and broccoli), and many of them showed dose-dependent effects in both normal and genetically affected organisms. The tests we make on the Drosophila balanser chromosoms. The results are significant indicating the importance of bioactive compounds intake for health protection and prevention of ill conditions (stress, activating or inhibiting genetic substance). Pursuance of researches with ayurveda herbals and food products can explain the efficaciousness of ayurveda nutraceuticals.

Keywords: bioactive compounds, oxidative stress, gene transcriptase, nutraceuticals

Viruddhahara and its Management

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Ahara plays a key role in healthy, diseased and convalescent states. In Ayurveda, a novel concept of Viruddhahara has been condensed. Consumption of Viruddhahara gives rise to various disturbances of mild to violent nature, mainly skin diseases. To identify the effect of Viruddhahara on human body, in this study uncomplicated patients with classical symptoms of Ekakustha were selected from the OPD and IPD of IPGT & RA, Jamnagar. A total of 38 patients were registered for the study and among those 25 had completed the course. Patients were randomly divided into three groups. Patients of Group A (n = 11) treated with Shodhana therapy: Virechana, Group B (n = 8) with Shamana: taila of Wrightea tinctoria, and Group C with placebo. All patients were advised to leave all types of diet and take only mudagdal + rice + wheat flour roti in low quantity with respect to appetite and Agnibal. Diet schedule was given salt-free. For drinking water, Usna Jala/Sundhi Siddha Jala was administered. The drug (Shamana and placebo) was administered continuously for 1 month in all groups. In Group A, it was administered after Virechana. Maximum results were achieved in Group A, followed by Group B and Group C. It was concluded that Ekakustha is a disease caused by Viruddhahara, and the line of treatment of Viruddhahara-janita Vyadhi, i.e. Shodhana, Samana and Nidanaparivarjana, is highly efficient than other measures. **[PA-806]**

Keywords: Viruddhahara; Ekakustha; Virechana; taila of Wrightea tinctoria

Nakshatra Vriksha and Sacred Grooves: the Traditional Ways for Healthy and Prosperous Life

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The Ayurveda is known as 'The science of life'. One just cannot imagine Ayurveda without plants and trees. In India, trees are treated as god. Many of these societies or cultures have traditionally developed strategies of conserving and managing nature and natural resources. Ancient books have references of 'Aaradhya Vriksha' and 'Kshem Vriksha'. Brihat-nighantu-ratnakarnar and Tantra-raj-tantra have references for particular tree for person according to his Janm nakshatra. Of these Aaradhya Vriksha is for worship and one should protect it, while Kshem Vriksha is for regular use in daily routine for healthy life. There is another strategy for conserving nature 'Sacred grooves'. The Sacred grooves are forest fragments of varying sizes, which are communally protected, and which usually have a significant religious connotation for the protecting community. They are named differently, viz. 'Sarna' in Madhya Pradesh, 'Devrai' in Maharashtra, 'Orans' in Rajasthan, 'Devarakadu' in Karnataka, 'Kovilkadu' in Tamil Nadu, 'Kavu' in Keral, 'dev van' in Himachal Pradesh, 'Ki law Lyngdoh' in Meghalaya, etc. Both these cultural methods not only provide spiritual growth but also have been instrumental in preserving valuable medicinal plants and trees, ponds, lakes, animals and ecosystem. Their important role in making human life healthy and prosperous will be explained in the paper. **[PA-19]**

Keywords: sacred grooves; Aaradhya Vriksha; Kshem Vriksha

Way to Healthy Immune System

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The immune system is like a double-edged sword which needs sensible handling. It can be stimulated or suppressed by various physical, chemical and biological agents, and these include steroids and various natural products of microbial, animal and plant origin. Here through the medicinal plants, we can master the immune system by controlling it, the way we want it to work, by either stimulating or inhibiting. Our immune system is increasingly exposed to detrimental effects, which are immune-suppressive environmental conditions, unhealthy living and chronic illnesses like cancer where excessive chemotherapy threatens our immune system; this situation demands compensatory prophylactic regimes. Among those, immune-stimulation is more difficult to achieve than immune-suppression which is required in the transplantation surgery and in the medical treatment of auto-immune diseases. Ayurveda emphasizes the promotion of health with a concept of strength-

ening host-defense system against diseases. The concept of immune-modulation through Ayurveda has been used successfully in the treatment of immune-compromised conditions such as acquired immune deficiency syndrome (AIDS), TB and cancer and also in certain auto-immune diseases such as arthritis and allergies. To conclude, I emphasize that the Ayurveda has a solution to maintain a healthy immune system in the present era. **[PA-184]**

Keywords: medicinal plant; immunomodulators; immunostimulants; immunosuppressants

Ayurveda in Sports Medicine: a Case Study

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Sports medicine specializes in preventing, diagnosing and treating injuries related to participating in sports and/or exercise or recreational activity, specifically the rotation or deformation of joints or muscles caused by engaging in such physical activities. Common sports injuries are as follows: Concussion—caused by severe head trauma where the brain moves violently within the skull so that brain cells all fire at once, much like a seizure; muscle cramps—a sudden tight, intense pain caused by a muscle locked in spasm. Muscle cramps are also recognized as an involuntary and forcibly contracted muscle that does not relax. ACL sprains—the anterior cruciate ligament (ACL) is a ligament involved in knee stabilization. ACL rupture can occur when the foot is planted and the knee twists to change direction. Ankle sprain—the ligaments that hold the ankle bones in place can easily be overstretched. Shin splints—the tissue that attaches the muscles of your lower leg to the shin bone may be pulling away from the bone, or it may be inflamed from overuse. In many cases, these types of injuries are due to overuse of a part of the body when participating in a certain activity. Common symptoms are inflammation characterized by pain, localized swelling, heat, redness and a loss of function. The use of Ayurveda and Panchakarma treatments in sports injuries is not new, but its clinical effectiveness and potential has never been fully established. This paper is an attempt to throw a pebble in a sea; a joint effort will definitely bring turbulence. **[PA-198]**

Keywords: concussion; cramps; ACL; splints

Methods of Enhancement of Vyadhikshamatwa w.s.r. to Immunity

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Only hita ahara, vihara and aushadha are not able to prevent a disease; i.e. other factors like vyadhikshamatva are also needed to it. Vyadhikshamatva is an inherited capacity

of the body to resist the disease. Recently, the scientists believe that immunity is not merely resistance against organisms and toxins but it is devoid of all types of diseases. Being inherited quality, there are some factors supporting this, and by enhancing such factors one can enhance it. Ayurveda mentioned it as Bala. By enhancing the other balas such as oja, majja, shukra, shareera bala and manasika bala, it is possible to enhance vyadhikshamatva. We need to take care to get healthy child since from conception, even from healthy sperm and ovum, during its development inside garbhashaya, after birth, during all stages of life with both shareerika and manasika factors with Trividha Rasayana and Achara Rasayana. Health is essential to attain chaturvidhapusharta; immunity is a prime factor to be healthy. **[PA-236]**

Keywords: Vyadhikshamatwa; immunity; Bala; Swabhava; Desha; Rasayana

'Acceptable Ayurveda', the First Step to 'Affordable Ayurveda'

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According to a study about acceptability and usage of ISM, merely 7% of India's population avails Ayurvedic system of medicine. This emphasizes the need of creating awareness about Ayurveda before making it affordable. Factors such as palatability, dosage forms (ghrita, avaleha, etc.) and prolonged usage play a significant role in deciding the acceptability of Ayurvedic drugs. On this background, a random sample survey was carried out with the help of a questionnaire containing questions on exposure to Ayurveda, cost, taste, dosage form, etc. of Ayurvedic medicines. It was observed that 62% of the people were unaware about Ayurveda, while 24% had heard but never used it. Reasons for non-use could be listed as follows: no prior experience, misconceptions, non-availability of Ayurvedic practitioners, etc.; 14% population using Ayurvedic medicines found Ayurveda as affordable cost-wise, effect-wise and otherwise. This study also reveals the facts about existing usage of Ayurveda according to age, religion, occupation, etc., thus highlighting scope for its further growth. The study gives a glimpse of status of Ayurveda in society and underlines the need of a systematic and step-wise approach to create an Ayurveda-literate population. In addition, topics including cultivation of herbal plants, schemes by Government, AYUSH and newer manufacturing techniques to make Ayurveda acceptable and affordable to all have been discussed in detail in full paper. **[PA-465]**

Keywords: Ayurveda; affordability; acceptability

Global Approach of Research Trends on Ayurved

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Today, health concerns of every human body need clear diagnosis and natural therapy. The health concerns range from common cold to carcinoma, and a number of human sufferings are still under the clutches of distress, even without systematic relief. Ayurved advocates a lot of scope for research and development. It includes drug research, chemical research, and Nadi diagnosis. **[PA-472]**

Keywords: health concerns; Nadi diagnosis; natural therapy

Ayurveda and Panchakarma in Sports Medicine

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Sports medicine specializes in preventing, diagnosing and treating injuries related to participating in sports and/or exercise or recreational activity, specifically the rotation or deformation of joints or muscles caused by engaging in such physical activities. Common sports injuries are concussion, muscle cramps, ACL sprains, ankle sprain and shin splints. In many cases, these types of injuries are due to overuse of a part of the body when participating in a certain activity. Common symptoms are inflammation characterized by pain, localized swelling, heat, redness and loss of function. In ACL sprains, the anterior cruciate ligament (ACL) is a ligament involved in knee stabilization. ACL rupture can occur when the foot is planted and the knee twists to change direction, and such injuries require surgical intervention. In one such case study of ACL and PCL partial tear, the treatment with Ayurvedic medicine and Panchakarma therapies resulted in avoiding the surgery and return to normal life of a sport person. The use of Ayurveda and Panchakarma treatments in sports injuries is not new, but its clinical effectiveness and potential have never been fully established. This paper is an attempt to throw a pebble in a sea; a joint effort will definitely bring turbulence. **[PA-538]**

Keywords: concussion; cramps; ACL; splints; sports medicine

Role of Rasayana in Paediatric Disorder

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This paper touches upon the following issues: (1) burden of various pediatric disorders needs proper care in recovery phase; (2) limitation of modern pediatric practice of Rasayana therapy in this age group; (3) standardization of different variables needed in Rasayana; (4) utility of lehan in Rasayana therapy; (5) opportunities in this field; (6) development of a protocol for Rasayana pediatric age group; and (7) utility to find answer to various pediatric disorder. **[PA-624B]**

Keywords: Lehan; Rasayana; burden; limitation; protocol

Making Ayurveda Affordable to All

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Presently, 95% of Ayurvedic herbs are collected from the wild source, and this trend will lead to extinction of many herbs and could increase the price of herbs manifold. Preparations involving many herbs increase the cost considerably. There is also a tremendous involvement of human labour in the Ayurvedic industry, from medicinal preparations to external therapies. Lack of professionally trained manpower obviously increases the number of persons required to perform a given task and puts a heavy constraint on the investors in the field of Ayurveda. Adding to this, global warming also possesses a great threat to herbal cultivation. This paper aims to discuss the possible solutions and methods for the following: (1) regulation of the price of herbal drugs such that it is profitable to cultivators and reasonable to buyers also; (2) possible green solutions in Ayurvedic industry; (3) promotion of herbal cultivation with innovative schemes such as "Free Medical insurance for Herbal cultivators"; (4) preventing the use of herbs from wild sources in the manufacturing sector; (5) methods to increase the number of professionally trained manpower; (6) enabling medical insurance cover for Ayurvedic medications and treatments. **[PA-658]**

Keywords: affordable; green concepts; Ayurveda

Role of Aharavidhiviseshaayatanas in Promoting Health and Causing Disease

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The proper and improper adoption of Aharavidhiviseshaayatanas plays a vital role in promoting health. Aharavidhiviseshaayatanas are quite different from that of modern dieticians and suitable for our rural and urban population of India. So to popularize this

important concept a critical study has been taken to explain the concept and application with a few examples. Aharavidhiviseshaayatanas are 8 in number such as Nature, Processing, etc. Nature: Properties of food like heavy, light (Guruvra and mano anukula adiguns), etc. constitute prakriti. One of the nidana of obesity is intake of excessive guru, tarpana, madhura, snigdha ahara. By avoiding the etiology we can prevent obesity to some extent. The adoption of guru apatarpandiet by obese reduces obesity (Cha. Su 21/20). Matra: For annajahikka etiology is atimatra bhojana. So avoiding etiology annajahikka will not be caused. In ahara vidhi visesha ayatanas both shareera and mano anukula rules have been mentioned. Swastya means maintaining both body and mind. So by following these we will attain Swastya i.e. prosperous health. **[PA-673]**

Keywords: Aharavidhiviseshaayatanas; Swatya

Intellectual Property Rights and Ayurveda

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Ayurveda and other traditional medicines are developed from the experiences gained over centuries. As this knowledge is livelihood for millions of people, implementing private property protection on traditional medical practice including Ayurveda will create problems. On the other hand, if kept unprotected, it will lead to misappropriation of traditional knowledge by fraudsters, making minor modification of the traditional medical knowledge. The CSIR India has created Traditional Knowledge Digital Library (TKDL) and Traditional Knowledge Docket System (TKDS) on the view to protect Ayurveda and other traditional knowledge without affecting the persons or communities which are genuinely related to it. The State Government of Kerala has made a further step to protect traditional medical knowledge. According to the IPR Policy of Kerala State Government, all traditional knowledge are included under the realm of 'knowledge commons' rather than 'public domain', and these information are available through electronic media but subject to ever-greater restrictions through intellectual property legislation. Even though the central and state governments are taking steps to protect traditional medicines and practices, it is still debatable whether these policies are helpful to prevent misappropriation and bio-piracy. Anyway an innovative and effective mechanism to protect Ayurveda is the need of the hour. **[PA-699]**

Keywords: public domain; biopiracy; knowledge commons

Maintenance of Rural Health Care System through Ayurveda

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Ayurveda, the science of life, is well known for its curative and preventive aspects since time immemorial and gradually gains popularity not only in India but throughout the world with an emphasis on maintaining both physical and mental health. Ayurveda also plays a major role in the rural health in different aspects as follows: (1) day-to-day home remedy for many diseases such as coryza, headache, cough, etc.; (2) special attention for scorpion bite and snake bite; (3) preventive aspects—Ritucharya and Dinacharya; (4) providing basic knowledge to them about local herbs and their application on different diseases along with different forms of doses; (5) aware them regarding the nutritional values of different food items with cost effective; (6) creating awareness among rural people regarding different seasonal diseases and their preventive measures from grass root level; (7) promoting Ayurveda by creating interest on natural remedies and their beneficial effect versus adverse effect of synthetic drug; (8) encouraging them to use biofertilizer and herbal pesticide instead of synthetic ones; (9) arranging health camps along with the distribution of Ayurvedic medicines on a regular basis towards curative purposes; (10) implementation of NRHM scheme. The above-mentioned points in this paper will be discussed in detail during the seminar. **[PA-705]**

Keywords: rural health care system; Ritucharya; Dinacharya

Comprehensive, Integrated and Affordable Health Care for All

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Three decades ago, India and other participating countries signed a declaration to achieve 'Global Health Care for All' by the year 2000. Except Spain and Costa Rica, no other country has achieved this goal. It is time to focus our attention on how to achieve this goal in India, in the near future. Indians have the highest incidence of hypertension, obesity, type-2 diabetes, coronary artery disease and stroke. To create awareness and develop preventive programs, I started a society (www.sasat.org) in 1993. We would like to join hands with AYUSH and develop a comprehensive integrated health care program for all individuals in India. In this collective effort, we feel strongly that using the strength and expertise of each one of the arms of AYUSH will offer the most benefit. For instance, Ayurveda offers the most effective modalities for pampering and strengthening the body, mind and soul. If we develop this art of therapy to its full potential and add a portion of science to our day-to-day practices, then we will have the best of 'RASAYANA' to offer, to the current system of health delivery. To develop full potential of these 'heritage' therapeutic modalities, we need to work on capacity building, develop standard surveillance methodologies for risk assessment, create awareness programs, risk management programs, promote lifestyle

changes, introduce evidence-based knowledge about therapeutic products and initiate affordable therapeutic modalities. We also have to develop effective management of the 3Is: infection, inflammation and immune systems. Since patient safety is of great importance, adequate regulatory issues should be considered. These issues cannot be answered in isolation and needs to be considered in the light of a meaningful assessment of the potential benefit, the risks of avoiding other 'proven' therapeutic approaches, the potential toxicity of other therapeutic interventions as well as of the AYUSH products that are currently in use. In this overview, we will discuss the need of the hour, providing affordable health care to all, and discuss some 'novel concepts' to strengthen the arts and science of Ayurveda, the ancient therapeutic system of sages. **[PA-862]**

Keywords: AYUSH; health care; Rasayana

Applying Ayurveda to the Challenges of our Times

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Climate change – also in Europe and India – is one of the biggest challenges of the coming years. Climate protection only deals with adaptation as social adaptation. Person appears as a victim in these problems. Climate change is a stress process and its answer – ability to adaptation – determines the further destiny of person. This is why we started a multi-centric research project, where ayurveda's elements are being tested in their effect produced on adaptation processes (physical training-yoga, meal in accordance with the type of physique, research of nutraceuticals, meditation, treatment of marma points with BRT technology, adaptation of herbals, improving mental capacity). Process of adaptation is of importance in many areas of life, this is why we are planning to involve partners in multicentric researches. Presently project team is made up of 4 Hungarian universities, one more Hungarian, a Romanian and a Chinese University is likely to join. We are looking for Indian partners. Biological and physical processes of adaptation are known and revealed in details. But this knowledge suggests that reactivity of an organism could be influenced by many sides. We bring these apparently distant areas to unity, and establish optimal instruments for the concrete person or situation for optimising capacity for work and stress suffering ability. On the congress several reports will be delivered about the pilot project by Hungarian group members.

Keywords: climate change, adaptation, stress

Why urgent regulatory change is needed in Europe to safeguard the future of Ayurveda

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Most Ayurvedic products in Europe have been sold up until now as food supplements. This regulatory regime is assumed by European regulators to be inadequate, exposing the public to excess risk, hence the passage in 2004 of a simplified medicinal licensing scheme (the Traditional Herbal Medicinal Products Directive, 2004/24/EC) which comes

fully into force on 1 April 2011. European regulators expect that this medicinal regime should provide a 'safe harbour' for Ayurvedic and other traditional medicinal products. However, product ineligibility, technical difficulties or prohibitive costs mean that few if any Ayurvedic products are likely to be licensed by the time the directive's 7-year transition phase expires. The scheme excludes many traditional uses and innovative combinations of ingredients. It also ignores the use of minerals and animal products and fails to cater for those products that would tend to be used under the guidance of a practitioner. Major initiatives being spearheaded by two leading non-profit associations acting on behalf of Ayurvedic and other traditional medicine interests, namely the Alliance for Natural Health International and the Benefyt Foundation, are discussed. These emphasise the need for the creation of three distinct regulatory regimes to safeguard the long-term future of Ayurveda.

Keywords: regulation, Ayurveda, traditional medicine, legal, Traditional Herbal Medicinal Products Directive

Original Ayurveda: the road to progress in Europe

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The growth of Pseudo Ayurveda in Europe, in the long run, is detrimental to the interest of the authentic Indian Ayurvedic science and the industry. The need for India to keep her position as lead promoter and guardian of original Ayurveda makes it our responsibility to work with foreign nations and work out a mechanism to check the rampant growth and popularity of pseudo Ayurveda. The lack of co-ordination and standard course programmes leads to a number of organizations all over India, offering so-called 'Indian Ayurveda' in very short term 3-6 months courses (with no regard to authenticity and medical aspects) to lure foreigners. This promotes Ayurveda but robs the medicinal aspect; this mix is further diluted with the perceptions of the western promoter and Pseudo Ayurveda, which delivers inefficient results to the end user, finally negative publicity for Original Ayurveda. It also very negatively impacts qualified Indian doctor's chances in European nations, who have to compete with 3-6 month educated but 5~7years practised local European quacks (Ayurveda specialists). This is the main reason Ayurveda is largely perceived as a lifestyle in the West and not a medical science and Industry struggles to cut ice with them trying to market Ayurvedic medicine. The lack of proper regulatory laws in Latvia (Europe) was because the regulators are unaware as to what is Ayurveda. Those interested understand it to be a lifestyle and some exercises as propagated by the proponents of pseudo Ayurveda, hence the regulators apply cosmetic industry controls. My persistent awareness campaign with Ministry of Health, Latvia and other regulatory bodies, practical demonstrations by way of offering authentic medical advice and therapy from qualified doctors and therapists from India in Latvia led them to understand and realize the situation. This approach aroused the interest of the Government of Latvia to accept in principle the need for experimenting with Ayurveda as a source of complimentary or alternative medicine. I avoided the next pitfall, by approaching AYUSH and now we are on the road to make an Indo-Latvian Health Agreement on Ayurveda where European Allopaths will interact with Indian Ayurved specialists and learn and research Ayurveda as a medical science, this success will pave the way for industry to follow. In order to replicate the success of this story in other EU nations we need to follow this successful pattern with certain terms and conditions.

Keywords: pseudo Ayurveda; Ayurvedic science and industry; Lativia

Ayurveda: a Global Strategy

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A great deal of attention has been given to the subject of Medicines regulation especially in Europe where THMPD will affect the sale of Ayurvedic preparations from April 2011. However whilst this matter is being addressed little attention has been focussed on the ability of practitioners to practice. In many of the worlds' countries and especially within many parts of Europe it is illegal for anyone to practice Ayurveda as a general practitioner and so even if the medicines can be made available there will be nobody able to use them. Dr Harsha Gramminger – EUAA President will present a 5 point plan to address this serious issue and to enlist the active support of the leaders of the Ayurvedic organisations around the globe to collectively campaign for recognition of Ayurveda in their countries as a Medical science to be practiced alongside western medicine.

Keywords: Europe; THMPD; western medicine

Globalisation and Challenges of Ayurveda

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In modern days when the world has shrunk in time and space, all types of knowledge spread to various parts of the globe. As expected, ayurveda is changing and adapting, as it moves from its pre-modern conservative role to a new position as one part of a portfolio of alternative and complementary therapies, offered alongside modern biomedicine. The practice of 'Physical Yoga' has become a worldwide phenomenon rather than getting popularity as a whole philosophy. A similar process of globalization is currently happening to the tradition of Ayurveda. Efforts for the globalisation of Ayurveda are not something new; still Ayurveda could not yet catch roots in another continent. Is Ayurveda, in its present form, fit for global acceptance? Are this type of adaptation and the process of globalization, good for Ayurveda or for human kind? How can we safeguard Ayurveda's purity and authenticity, as Ayurveda presently adapts to the diverse conditions in global communities throughout the world? Integrating Ayurveda as a complementary form of medicine to Western conventional medicine is a boiling subject. The process of adaptation of Ayurveda has proven a positive adjunct for Western conventional medicine and thereby improving its practice, but it does not define Ayurveda. This paper deals with the issues and challenges Ayurveda faces due to globalisation.

Appropriateness of the Intellectual Property Rights Framework for the Ayurvedic Knowledge System: a Critical Analysis

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Deriving theoretical inspiration from anthropological research on common property resources, I argue that patent law is rooted in the notion of property which is unsuitable for an open-source knowledge system like Ayurveda. Patent law is an industrial era legal system designed to incentivize capital-intensive technologies, to protect investment and thereby encourage innovation. Today there is an increasing realization that the patent law is not only unsuitable to new generation technologies like biotechnology and information technology, but also counterproductive, contributing towards hindering rather than fostering innovation. In this analytical paper I suggest that innovation in traditional knowledge systems like Ayurveda is akin to innovation in open source information technology, which does not get incentivized by the patent system. I argue that the current proprietary model used by Ayurvedic industry in India using legal protection under the Trade Mark and Trade Secrets Acts is sufficient for the protection of exclusive knowledge. I conclude that while defensive moves like databases are required to prevent misappropriation of traditional knowledge, it is important for countries like India to question the logic of allowing industrial patent for herbal compositions.

Keywords: Ayurveda, intellectual property

Ayurvedic Education for Western Practitioners

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Western diseases are deeply seated in the social structures and values within society causing a separation between the heart, the mind and the senses. Prajna aparada and asatmyendria artha samyoga are said to be the causes of disease and it is here that students must learn to reconnect to the sense of being here and now. One could start with the understanding of darshana – perception as the key to unravelling the cause of patients suffering. Nowhere is this more pressing than in the education process of practitioners who wish to practice in the west, whether from the locality or from India. Nigel Hubbers will expand his views and experience in the educational field and the field of practice of Ayurveda in Germany and UK to give a valuable insight into the importance of psychology when treating western patients.

Keywords: Western diseases; Prajna aparada; asatmyendria artha samyoga

The Clinical Trial of Different Phases to Safety and Efficacy of Designed Amritasava of Ayurveda in the Treatment of HIV Infection and AIDS

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The objective of this study is to assess the safety and efficacy of designed amritasava in HIV positive patients and to develop active pharmaceutical ingredient for antiretroviral (ARV) drug in Ayurveda. HIV/AIDS is a complex and unique infectious disease. The infection is life long, and no cure or successful medicine is available. It increases CD4 count and decreases high base line of plasma viral load. Clinical development methodology is classified into Phases I to IV. The main purpose of a Phase I trial on limited number of HIV positive patients is to determine clinical efficacy and to further confirm safety. Phase II trial deals with non-clinical toxicological studies related to assessing the safety of designed amritasava. Phase III trial involves formulation of designed amritasava in accordance with WHO GNP Standard and isolation of chemically defined pure active Pharmaceutical ingredient (API) as per CMC process. In phase IV trial, studies performed after marketing of the pharmaceutical product. Results show that efficacy of designed amritasava in limited number of HIV patients was assessed in randomised double-blind placebo controlled trial. Twenty HIV positive patients were randomly assigned to three groups to receive designed amritasava zidovudine and placebo for 6 months. The hematological investigation was repeated at bimonthly intervals and CD4 count was repeated at the end of the study. The drug was decoded at the end of the trial. It was observed during Phase I trial of designed amritasava that there was a significant increase in the number of CD4 count and gradual reduction of 70% clinical feature of symptomatic stage of HIV disease. The designed amritasava may be safe having no adverse toxic effect on long-term therapy. Now the Phase II and Phase III trials are going on. **[PA-376]**

Keywords: amritasava; Ayurveda; Tinospora cordifolia (Willd.)

Hepatoprotective Antifibrotic and Antioxidant Properties of Triphala Rasayana

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The aims of this study were to evaluate the hepatoprotective antioxidant antifibrotic and free radical scavenging property of thriphala rasayana against CCL4 in vivo. In this in vivo study, six groups of male Wistar rats comprised the control group and the groups treated with CCL4 in both preventive and curative aspects were used. The results show that CCL4 administration alone in rats led to marked increase in alanine amino transferase (AST), amino transferase (ALT), alkaline phosphatase (ALP), and malondialdehyde (MDA) values. Treatment with triphala rasayana remarkably prevented and protected liver from chronic CCL4 poisoning as evident from serum values. Estimation of reduced glutathione was done. In groups treated with triphala rasayana there were significant increase in hepatic glutathione levels against CCL4. Malondialdehyde is the end product of lipid peroxidation. CCL4-induced elevation in MDA concentration was lowered in rats treated with triphala rasayana. Hydroxyproline is the indicator of hepatic fibrosis formation in liver. In both preventive and curative groups, the levels of hydroxyproline decreased significantly. In histopathological studies, the groups treated with triphala rasayana show remarkable recovery from fibrotic changes and necrosis. It is concluded that triphala rasayana is having significant hepatoprotective antioxidant antifibrotic and free radical scavenging property. **[PA-807]**

Keywords: hepatoprotective; antifibrotic; antioxidant; free radical scavenging

Evaluation of Rasayana in the Management of Menopause (Rajonivriiti)

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Menopause is an estrogen-deficient state, because of which women have to face inevitable scars of menopause. According to Indian menopause society research, there are about 65 million Indian women over the age of 45, and this figure is expected to creep-lip. Hence, menopausal health demands even higher priority in Indian scenario. The objective of this study is assessment of role of rasayana in the management of menopausal syndrome. Menopause deals with Jara Pakva Avastha of body. Jara and rajonivritti are manifested due to progressive reduction in the functional ability of agnis, which results into an inadequate tissue nutrition. This nutritional imbalance triggers the irreversible degenerative changes in dhatu and vata vriddhi. Among the remedies mentioned for menopause, rasayana therapy is an unique preventive ayurvedic healthcare measure that deals with jara. In this study, a total of 100 patients were treated in three groups, viz. control Group P (placebo capsule), Group R (rasayanakalpa vati) and Group U (urjaskalp vati) to assess the role of rasayana in the management of menopause. Among these groups, overall clinical improvement was

better in patients of Group R than Group U and Group P. Rasayanakalp vati provided quick and better relief in all signs and symptoms and in dhatukshayatmaka lakshanas.

Keywords: climacteric stage; menopausal syndrome; rasayanakalpa vati; urjaskalpa vati

Ayurvedic Prospective of Immune Disorders

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Our hectic, busy and stressful lifestyle can cause physical and mental wear and tear, which further impacts the body's intelligence and leads to a weakened immune system. Western approach will make everyone to take remedies to mask their symptoms which will further weaken the immune system. Ayurveda tells us (1) how our incompatible lifestyle, diet and environment can play a role in impacting on the immune system; (2) how unresolved emotions can affect the immune system; (3) how the immune system can be strengthened; (4) how living a balanced life at every level - physical, mental, emotional and spiritual - is the key to build our ojas, the key essence of our immune.

Keywords: immune system; balanced life

Minimizing the Cost of Production of Ayurvedic Drugs by the Utilization of Byproducts During Extraction

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Comparison of the prices of Ayurvedic medicines and modern medicine is made primarily to find out the price pattern of Ayurvedic medicines and found that Ayurvedic medicines are the expensive ones. To make Ayurvedic medicines affordable to all, we have done many trials to decrease the manufacturing cost of Ayurvedic medicines like restructuring of recipes, adoption of novel extraction techniques, optimization of extraction parameters, finding ideal physical and chemical conditions of extraction, etc. This paper is prepared on the basis of this and describes how an Ayurvedic drug manufacturer can reduce his cost of production by salvaging some of the byproducts. Spices are ingredients many Ayurvedic drugs, and its essential oils are lost during its manufacturing process. Traditional extraction stills available with most of the Ayurvedic manufactures can be converted to essential oil collection systems, and by selling this essential oil, Ayurvedic manufactures can decrease their raw material cost and share their profit to end users by reducing the retail price. GCMS analysis was done for representative products and found that quality of Ayurvedic medicine is not affected at all in this method. **[PA-8]**

Keywords: byproducts; Ayurvedic

Standardization of Bhasm with Special Reference to Tamra Bhasm

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Ayurveda is the most popular health care system since ancient time. Since then, the metals and minerals were used abundantly in various dosage forms, and in due course of time rasshastra became an integral part of Ayurveda. Different types of processing techniques such as pounding, grinding, boiling and dipping in different liquids have been explained in ancient texts which have their own scientific background. The sequence of these processes may change from metal to metal. All these processes are to be studied properly in preparing standard classical Ayurvedic drugs for quality assurance. But in the recent past, the rasshastra preparations are repeatedly being targeted by so-called western scientists, which are letting down the reputation of Ayurveda. Hence, standardization of bhasm preparation is a must for each and every process. Modern techniques such as X-ray diffraction (X-RD), scanning electron microscopy (SEM), energy dispersive X-ray analysis (EDAX), infrared spectroscopy (IR) and transmission electron microscopy (TEM) were

used to generate physicochemical fingerprint. Our results showed that the metals in most of the herbal medicines were in the oxide or sulfide form. If the rasoushdhis are made properly using classical method, they become safe and nontoxic. Tamra is one among such medicines which can be made as nectar by adopting proper pharmaceutical procedures. To conclude, in order to bring out the high-quality herbo-mineral products, herbo-mineral drug must be standardized using modern techniques. In this paper, we will discuss about the classical concepts and few modern parameters to be adopted in bhasm preparation. **[PA-17]**

Keywords: Tamra Bhasm; infrared spectroscopy; TEM

Pharmacovigilance: a Report from NADRI

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Ayurvedic medicines are widely used in health care system. However, in recent years, there have been several safety concerns, and there is an increasing recognition of the need to develop pharmacovigilance (safety monitoring). The strong belief is that Ayurvedic medicines are safe, and there are no records available pertaining to adverse drug reaction. Ignorance about the concept of safety and importance of pharmacovigilance in Ayurveda compounds this problem. Establishment of Pharmacovigilance Centre is the first step in this direction. Department of AYUSH has formally launched National Pharmacovigilance programme of Ayurveda, Siddha and Unani drugs (ASU) on August 2008, and the Gujarat Ayurveda University, Jamnagar, is acting as a National Pharmacovigilance Centre. National Pharmacovigilance Programme (NPP) conducted under the system of AYUSH aims to record the adverse drug reaction data related to various drugs. Central Council of Research in Ayurveda and Siddha (CCRAS) has allocated National Pharmacovigilance programme at 28 peripheral Institutes nominating them as peripheral pharmacovigilance centres of CCRAS. Twenty-two institutes working under CCRAS have submitted the reports in the year 2009–2010. A total of 231 adverse drug reactions are reported so far. National Ayurveda Dietetics Research Institute, Bangalore, has documented four adverse drug reaction cases in the year 2009–2010. This paper will discuss the contributing factors, challenges and suggestions. **[PA-60]**

Keywords: Pharmacovigilance; CCRAS; NADRI

Method of Preparation of Ayurvedic Formulation Especially Naga Bhasma Using Ayurvedic and Modern Technologies

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As per the concept of standardization of Ayurvedic drugs, especially rasa-shastra, it has become necessary and contemporary to adopt the modern techniques and methods to achieve reproducibility and uniformity of formation having various methods, which are followed during preparations. So has been the need of making Ayurvedic preparations so efficacious that the toxic one can prone to be the best medicine which will fulfill all the criteria on Ayurvedic and modern background. For this purpose, the most toxic metal lead (Naga) was selected for the study, and its incineration was done in puta and furnace to adopt the Ayurvedic and modern techniques, see the results and quote them on analytical background for study of this toxic metal with proper understanding through both points of view. In this paper, details regarding pharmaceutical and analytical studies of naga bhasma in puta and furnace are discussed. **[PA-140]**

Keywords: preparation of bhasma; ayurvedic and modern parameters

A Comparison on Phytochemical and Acute Toxicity Between Conventionally and Tissue Culture-Propagated Plumbago rosea Linn. (Rakta Chitraka)

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The study was conducted to compare the phytochemical and acute toxicity of conventionally and tissue culture-propagated Plumbago rosea. Results showed that the yield of tuberous roots was more in tissue culture-propagated plants. Plumbagin, the active principle of P. rosea, is three times higher in tissue culture-propagated roots. Purification of the roots recommended by Ayurvedic parameters was done, and it was found that plumbagin content can be reduced significantly in conventionally propagated roots. Acute toxicity studies of purified and non-purified roots of plumbago were done. Decoction was given to albino mice in varying doses orally; i.e. 0.0026 ml/g body wt. (in 10× group), 0.0052 ml/g body wt. (in 20× group), 0.0104 ml/g body wt. (in 40× group), 0.0208 ml/g body wt. (in 80× group), 0.0208 ml/g body wt. (in control group). No mortality was seen in any of the above-mentioned groups. It is evident that tissue culture-propagated plants yield more roots and high plumbagin content. As a toxic principle, less quantity of plumbagin content is sufficient for a safe and non-toxic therapeutic effect and that was seen in conventionally propagated roots. **[PA-156]**

Keywords: Plumbago rosea; conventional; tissue culture; phytochemical; acute toxicity

Utility of Contemporary and Ancient Concepts of Pharmacovigilance in Ayurveda

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Globalization, consumerism, aggressive advertising and internet marketing have enhanced worldwide awareness and consumption of herbal medicines. Rampant growth has brought consequently newer safety concerns such as self-medication practices, excessive and irrational drug use, manufacturing and sale of counterfeit and substandard medicines; parallel use of herbal medicines, dietary supplements and foods and modern medicines raises the potential of serious adverse drug interactions. A drug is defined as being safe if it causes no known or potential harm to users. WHO has produced guidelines for the assessment of the safety, efficacy and quality of herbal medicines. The science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other drug-related problems are defined as pharmacovigilance. Pharmacovigilance encompasses preclinical animal toxicity studies, safety and ADR monitoring during clinical trial and post-marketing surveillance. Ayurvedic Samhitas and Nighantus have precisely described ADR due to irrational prescription of drug, toxicity due to prolong use, improper processing, dosage, etc. Concept of drug interactions and test for acute toxicity has been elaborated under concept of virrudha and virrudhanna vigyana. The paper aims at propagating classical and contemporary concept of pharmacovigilance to improve patient care and contributes to the assessment of benefit, harm, effectiveness, risk, rational and cost-effective use of Ayurvedic and herbal medicines. **[PA-217]**

Keywords: pharmacovigilance; ADR (adverse drug reaction); Virrudha

Phyto-Pharmaceutical Assay of Dashamooladi Rasayana Compound: a Novel Compound for Diabetic Polyneuropathy

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At least 171 million people worldwide have diabetes; among them 47% suffer from symptoms of diabetic sensorimotor peripheral polyneuropathy (DSPN). Despite ad-

vances in understanding metabolic causes of neuropathy, treatments aimed at interrupting these pathological processes have been limited by side effects and lack of efficacy. Even though it is not mentioned directly in Ayurvedic literature, critical analysis of the lakshanas of DSPN gives certain insights to the role of Avarana of Vata by Dushyas. Ideally, Rasayanas are preferred in such multi-faceted disorders, which not only disintegrate the clutches of Samprapti but also energize the glucose-starved tissues. The objective of this study is to explore and understand pathogenesis of DSPN in the light of Ayurveda and to propose a novel herbal compound preparation—Dashamooladi Rasayana compound for treatment of the same. This compound was analyzed and standardized scientifically through qualitative and quantitative analysis by physicochemical parameters, thin layer chromatography (TLC) and high performance thin layer chromatography (HPTLC). This approach will signal a new era toward the use of Rasayanas in such neurodegenerative disorders and help millions in desolation. **[PA-334]**

Keywords: diabetic polyneuropathy; Samprapti; Rasayana; Dashamooladi Rasayana compound; phyto-pharmaceutical assay

Subissues-related Rasaushadhies

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Although Rasausadhis are time-tested recently, they have been in controversy due to various issues. These issues can be considered broadly in two groups: (1) drug manufacturing-related issues and (2) issues related to usage and prescription. Issues related to drug manufacturing can be classified into three steps: (1) raw materials; (2) in-process; and (3) final products. Issues related to usage can be classified into two steps: (1) patients tend to take self medication over the counter OTC without consultation from vaidyas and (2) there is a mischief that Ayurvedic drugs have absolutely no side effects and hence their abundant use. This paper delves into the details of various issues and challenges related to rasaushadhies. **[PA-348]**

Keywords: raw material-geology; heavy metal toxicity; OTC

Issues Related to Rasa-Aushadhies

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Rasa-aushadhies, which are herbo-mineral compounds, are as good as magic lamp in the treatment of not only ordinary curable diseases but also incurable ones and are facing many burning issues in the present era. Although Rasayogas are very effective, selection of specific formula for particular disease for manufacturing is also mandatory. Attempts

should be made to procure genuine and potent raw material in manufacturing. In addition, problems of adulteration and substitutes for drugs are coming forward. Furthermore, textual guidelines are not being followed for processing on these materials, which again defame rasayogas as they are unable to give results as mentioned in Granthas. These rasa-aushadhies are not being prescribed in proper and classical way to patients. Moreover, the suitable doses, period and anupana are not thoroughly explained. Meanwhile, the research article published on 15 December 2004 in JAMA reported toxicity of heavy metals and thus fingers raised at therapeutic index of rasa-aushadhies. However, modern science is unaware of processes in manufacturing of rasayogas such as Shodhana, Jarana, Marana and Amritikarana which render the substances free from toxics if present and easily assimilable in the body. All these issues need powerful solutions and their implications. Solutions regarding these and more issues will be discussed in the full paper. **[PA-365]**

Keywords: Rasa-aushadhies; manufacturing; genuine raw material; toxicity; solutions implications

Pharmaceutical Standardization of Triguna Rasa Sindhoora

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Rasa sindhoora is a basic Kupipakwa Rasayana prepared using Shuddha Parada (purified mercury) and Shuddha Gandhaka (purified sulfur) with inevitable Bhavana process. It is a Rasaushadhi used as an ingredient in various herbo-mineral compounds and abundantly used as a single drug with different anupanas in many diseases. Hence, it is a need of hour to standardize such broad-spectrum drug. It is described in Rasa classics that the amount of Gandhaka in Jarana process is directly proportional to increase in therapeutic efficacy and reduces the toxicity of the product. Hence, Gandhaka Jarana had been done using Kramagni pattern and drug is prepared. Here an attempt has been made to prepare Triguna Rasa sindhoora in the ratio of 1:3 (Hg-1and S-3 parts) in minimum of 15 h, both in EMF and Valuka Yantra. Average 603°C and 630°C temperature in EMF and Classical Valuka Yantra, respectively, with the yield of average 78% product in EMF and 81% product in Classical Valuka Yantra using 24 kg of coal. The paper carries the details of this study. **[PA-394]**

Keywords: Rasasindoor; Kupipakwa Rasayana; Bhavana

Effect of Puta in the Preparation of Vanga Bhasma

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Various controversies regarding different types and numbers of Putas for the preparation of Bhasmas have made it difficult to standardize them. To remove these, standard operating procedures (SOPs) should be designed, implemented and set for all such proceedings. For the preparation of Vanga Bhasma, Rasamritam has told Ardhagajaputa whereas Ayurved Prakash has told Gajaputa. In this study, to see the effect of the above-mentioned putas, Vanga Bhasma was prepared by giving Ardhagajaputa and Gajaputa. There is no classical reference available regarding the amount of cow dung cakes or measurement of the pit for Ardhagajaputa. For getting the volume of Ardhagajaputa, volume of Gajaputa was divided by two. Physicochemical analysis of raw drugs, in-process materials and the final products was done. Both the Bhasmas were analyzed by subjecting them to different analytical parameters such as XRD and AES-ICP. The quantitative inorganic assay showed decrease of Tn% from 99.45% in raw Vanga to 94.94% in Shuddha Vanga. SnO_2 was present 97.55%, 90.14% and 92.22% in Jarita Vanga, Vanga Bhasma by Gajaputa and by Ardhagajaputa, respectively. For Marana of Vanga, it was found that the Ardhagajaputa is preferable than Gajaputa after Jarana procedure of Vanga. This paper presents the details of the study results. **[PA-395]**

Keywords: Putas; Vanga Bhasma; Jarana; SOPs

Production of Health Drinks Using Effective Microorganism (Em) from Medicinal Plants' Extracts

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Alcohol is an important constituent of western diets. Prolonged alcohol consumption is the third leading cause of deaths each year; moderate consumption provides protection against heart attack and atherosclerotic ischemic stroke. This study was carried out to find a beverage that contains low alcohol. Medicinal plants such as Origanum vulgase (Oregano), Mentha × piperita (peppermint), Clovegium aromaticum (clove) and Coriandrum sativum L. (Coriander) selected along with effective microorganism (EM) as inoculants, and grape juice was used as basic fermentation material. Equal concentration and volume of medicinal plants' extracts were collected (5 ml of 10% v/v medicinal plants) and 2% activated EM and 250 ml of grape juice were mixed. The mixture was allowed to ferment at room temperature. At regular intervals, alcohol and antioxidant levels were estimated using potassium dichromate and colorimetric methods, respectively. The study proved that EM (2%) and 10% medicinal plants' extract could create a beverage containing lower alcohol (1.5% v/v) than commonly used beer (4–6% v/v) and wine (9–16% v/v) in India, at the same time containing high antioxidant (650 mg/dl). This work revealed that the produced health drink was having more antioxidant and lower alcohol. **[PA-439]**

Keywords: effective microorganism (EM); Saccharomyces cerevisiae; antioxidant

Unique Perspectives on the Drug Discovery Process: current Pharmaceutical Paradigm Versus Ancient Times

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Since the beginning of time, humans have sought to prolong life and assuage disease through understanding the human body. The medical systems of our time approach this effort through various planes and understandings. Current drug research focuses on the introduction of new medicines and marked improvements in existing therapy of many diseases. Traditional drug discovery focuses on the identification of chemical/biological entities that show an antagonistic or reversal effect on the symptoms of disease. This effect is targeted upstream/downstream of penultimate biological events thought to be responsible for or implicated in a diseased state. Drug entities are chosen based on potency and selectivity at the 'target' site, having minimum toxicity outside the target site. Ayurveda is a Shastra that understands the disease state as any deviation from the normal functioning of the body. The goal is to re-establish equilibrium to the body, allowing it to heal itself. Ayurveda looks at the root-cause analysis versus symptomatic or penultimate reaction mechanisms. What are the causative factors that caused the failure in the first place? Natural medicines, used with the understanding of their inherent nature, serve the purpose of healing the body without causing damage or disturbance to other systems. This presentation seeks to provide a unique perspective and comparative outlook on the drug discovery process in the present pharmaceutical industry and from ancient times. **[PA-519]**

Keywords: drug discovery; Ayurveda; medicine

Biotechnological Methods of Biopesticide Production from Neem

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The seeds of Azadirachta indica contain azadirachtin and other limonoids, which can be used as a biopesticide for crop protection. Significant variability and availability of seed only in arid zones have triggered biotechnological production of biopesticides to cope up with its huge requirement. Batch cultivation of A. indica suspension culture was carried out in statistically optimized media (25.0 g/l glucose, 5.7 g/l nitrate, 0.094 g/l phosphate and 5 g/l inoculum) in 3-l stirred tank bioreactor. This resulted in 15.5 g/l biomass and 0.05 g/l azadirachtin production in 10 days leading to productivity of 5 mg/l per day. Possible inhibition by the limiting substrates (C, N, P) were also studied and maximum inhibitory concentrations identified. The batch kinetic/inhibitory data were then used to develop and identify an unstructured mathematical model. The batch model was extrapolated to simulate continuous cultivation with and without cell retention in the bioreactor. Several offline computer simulations were done to identify right nutrient feeding strategies (with respect to key limiting substrates; carbon, nitrate and phosphate) to maintain non-limiting and non-inhibitory substrate concentrations in bioreactor. One such continuous culture (with cell retention)

simulation was experimentally implemented. In this cultivation, the cells were propagated batch wise for 8 days. It was then converted to continuous cultivation by feeding MS salts with glucose (75 g/l), nitrate (10 g/l) and phosphate (0.5 g/l) at a feed rate of 500 ml/day and withdrawing the spent medium at the same rate. The above continuous cultivation (with cell retention) demonstrated an improvement in cell growth to 95.8 g/l and intracellular accumulation of 0.38 g/l azadirachtin in 40 days leading to an overall productivity of 9.5 mg/l per day. The process of production of azadirachtin (biopesticides) by hairy-root culture (applied patent) has been also established and is discussed in the paper. **[PA-530]**

Keywords: azadirachtin production; bioreactor cultivation; hairy root cultivation; plant cell cultivation

Physicochemical Analysis of Akika Bhasma and Pishti and its Comparison with Market Sample

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These medicines are available in the market but there are no analytical standards to compare it with, as no research is conducted on this medicine till today; hence, the motto behind to select this drug is to know the physicochemical characters. This study is based on the preparation of Akika bhasma and Pishti. Their physicochemical analyses were compared with respective market sample. The present preparation of Akika bhasma and Pishti was carried out according to the same textual reference from which market preparation was done; so the probable results may show more or less equal results. The methodology adopted is as follows: (1) Identification of Akika; (2) Akika Shodhana; (3) Akika Marana; (4) Akika Pishti preparation; (5) physicochemical analysis-Ashodhita Akika, Shodhita Akika, Akika bhasma-self prepared and market sample, Akika Pishti-self prepared and market sample. The study concludes that: (1) Silicon oxide, iron oxide manganese dioxide, calcium and aluminium are the constituents present in the Akika bhasma and Pishti; (2) qualitative and quantitative analytical results show slight variations in self prepared and market samples of bhasma and Pishti; (3) X-ray diffraction of all samples is quite identical in their form. **[PA-535]**

Keywords: Akika; Bhasma; Pishti; physico-chemical analysis; market samples

Phytochemical Studies of Nisakathakadi Kashayam

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KWATH or KASHAYAM was originated from the days of Charaka and Sushruta. A simple formulation with many ingredients is incorporated in Kashaya. Most of the Kashayams are dark-coloured solution with sediments seen at the bottom of the bottle. This is due to its process and method of filtration. Ayurveda formulations are not based on empirical experience. It is backed by epistemological, philosophical and scientific foundation of its own. The paper explains that unlike many peoples' perception that it is a mere water extract, but it is much more than that. So the objective of the paper is a scientific exploration of Nishakathakadi Kashayam. By studying a kashayam namely Nishakathakadi kashayam, here we present the Ayurvedic concepts in a scientific manner. During the analysis, we found that Kashayam consists of six major groups of ingredients: (1) flavour, (2) bitters, (3) organic compounds, (4) inorganic compounds, (5) trace elements, (6) fibres. Flavours, apart from giving an odour, perform the duty as an antioxidant. The antioxidant activity of the formulation and its results will be presented. The EC50 value obtained was 52 μg/ml and shows excellent antioxidant activity. Bitters were evaluated by determining the bitter value and have a specific role during digestion and absorption. Its bioavailability explained along with results. Result is 1.21% bitters. Organic fractions dominated in Kashayams are polyphenols and sterols. Thin layer chromatography studies were conducted on these phytoconstituents. IR spectroscopy analysis was carried out and the spectral details will be presented during presentation. Results: pH 3.71, flavanoids 0.79%, sterols 0.075%. Curcumin is used as a marker compound, detecting the authenticity of the formulation by finger printing pattern through HPTLC. Inorganic compounds in Kashayam play a vital role in bioavailability, and its analysis and mechanism are being carried out by analysing them through ICPAES and results will be presented during presentation. Role and the presence of trace elements by doing the XRD studies will be presented along with results. The presence of soluble and insoluble fibres makes the formulation more therapeutically effective. The results are as follows: the scan details will be given during final presentation. Result: Total solids 12%. Finally while converting Kashayams into tablets or any other dosage forms care has to be taken for clinical validation. **[PA-563]**

Keywords: Nisakathakadi kashayam; polyphenols; sterols; IR spectroscopy; HPTLC; ICPAES; XRD studies; soluble and insoluble fibres

Phytochemical Investigation and Standardization of Ksheerabala Avarthy-101

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Ksheerabala is a preparation in which roots of Sida rhombifolia (Bala) are taken as kashaya (decoction) as well as powder (kalka) as per the yoga. The above is added with sesame oil and four times of milk and boiled. It is termed as Ksheerabala tailam. The addition of ingredients except sesame oil, each time by the same process for 101 times, will make the Ksheerabala Avarthy-101. The process ensures absorption of the active therapeutic

principles of the ingredients used. There are three essential components for the preparation of taila: (1) Drava (a liquid which is a Kashaya); (2) Kalka (a fine paste of drug); (3) Snehadravya (milk and oil). The Kalka and the Drava are mixed together; sneha is then added, boiled and stirred well continuously, so that Kalka is not allowed to adhere to the vessel. The process is repeated 101 times. The end point is determined when the taila attains the correct mrudu paka stage when froth comes out. At this stage, Kalka is waxy and when it is rolled between fingers it rolls like lac without sticking. During our research programme, we have evaluated Ksheerabala avarthy for its physical characters as a part of standardization. The data clearly show the difference in most of the avarthy, as the avarthy attains higher and higher times. There is a decrease in iodine value from 90 to 24 which indicates the degree of saturation of fats. During concentration, the value of unsaponifiable matter increases. The phytoconstituents predominantly are phytosterols, which show a gradual increase from 3 to 101 avarthy. There is a slight variation in the refractive index throughout from 1 to 101 avarthy. We have done the infra-red spectroscopy for the evaluation of Ksheerabala. IR spectroscopy is a powerful technique for identifying the unknown compounds and their functional groups. Precisely, it determines the functional group of a molecule. During our study, we observed the changes from 90 to 101 avarthy with respect to these functional groups. A variety of techniques are used in determining the characteristics of this formulation. Spectral details are presented in the paper. **[PA-619]**

Keywords: Sida rhombifolia; Ksheerabala avarthy; phytosterols; IR spectroscopy

Implementation of HPTLC Methods in Evaluating Pachan Sanskar of Rasaushadhis (Herbomineral Preparations) w.s.r. to Psoralen in the Preparation of Tablet Taleshwar Ras

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Standardization of herbal and herbomineral preparations is the global issue now, as it involves various complicated processes such as Shodhan, Maaran and Pachan. Advanced analytical methods like HPTLC can be effectively used to evaluate and standardize them. Taleshwar ras is a preparation for Lucoderma and Psoralen of Bakuchi is its principal active. It involves process of Pachan, i.e. heating with Khadir quath. The aims and objectives of this study are as follows. Pachan in Rasaushadhies is done differently in different preparations which commonly involve heating. This study aims towards evaluating the amount of heating up to which Pachan with Khadir quath for preparation of tablet Taleshwar ras can be carried out so that its Psoralen present in Bakuchi (Psoralea corilifolia) cannot be hampered which ultimately affects the efficacy of drug. Preparation of Taleshwar ras is done according to traditional method. Heat for Pachan is decided by considering the heat stability of Psoralen. Using HPTLC methods, comparative qualitative evaluation is done for the presence of Psoralen in raw drug Bakuchi and in tablet Taleshwar ras. Method and amount of heat decided for Pachan sanskar are sufficient, as HPTLC fingerprinting of tablet Taleshwar ras shows significant amount of Psoralen. Hence, using HPTLC we can standardize the Pachan Sanskar. **[PA-678]**

Keywords: herbomineral preparations; Pachan sanskar; Taleshwar ras; Psoralen; HPTLC

Adverse Drug Reaction Monitoring of Ayurvedic Medicines: a Pharmacovigilance Study

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A prospective observational pharmacovigilance study was conducted to monitor and analyze the pattern of occurrence of adverse drug reactions (ADR) to Ayurvedic medicines in a Ayurvedic hospital setup. ADR monitoring was done by spontaneous monitoring and intensive monitoring. The collected reports were classified as per age, sex, systems involved, ADR types, causality, and medicine (classical or proprietary) and analyze the probable reason of ADR and to come with suggestions to address safety issues. Results show that 44 cases were reported as adverse drug events in the span of 3 months, of which 8 were related to Panchakarma, 36 cases from oral medications; 15 cases were men and 29 women. About two-thirds of the reactions (33 cases) were classified as probable. The majority of the reactions (43 cases) were mild. Most patients (44) recovered from the incidence. All reported ADR were found to be preventable. To conclude, ADR to Ayurvedic medicines are generally mild in severity and preventable, and the availability of more data on incidence of ADR to Ayurvedic drugs through national pharmacovigilance program for ASU drugs will certainly help in taking measures to avoid incidence of ADR. **[PA-687]**

Keywords: pharmacovigilance; ADR; safety of Ayurvedic medicine

Significance of Bioavailability-Enhancing Property of Marich (Piper nigrum) on Bioavailability of Mercury in Shwasakuthara Rasa

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Although mercury is in use as medicine in India, the WHO recognizes it as a toxic trace element, which only enters body through polluted food and water. We need to establish data of its pharmacokinetics as it is a part of Rasashastra medicines. In the study, bioavailability of mercury in two samples of Shwasakuthara Rasa was studied to assess bioavailability enhancer effect of Marich (Piper nigrum). Shwasakuthara Rasa (S) was prepared by standard preparation methods (Yogaratnakara-S1, Bhaishajya Ratnawali-S2), but vary in proportion of Hg (7.14% and 11.1%) and that of Marich (60% and 22.2% in S1 and S2, respectively). After administration of 250 mg dose of the S1 and S2 to eight volunteers, blood samples were collected at 0, 1, 1.5 and 2 h. The blood was tested by atomic absorption spectroscopy for mercury content. It is proved that mercury gets absorbed from both formulations showing highly significant difference in absorbance at 2 h ($P = 0.002248$). At 2 h, Hg level from S1 is significantly higher than S2. If variation in amount of Hg in both formulations is considered, increase in the absorbance of Hg from S1 can be attributed to much higher levels of Marich in it. **[PA-715]**

Keywords: bioavailability; enhancing property; Piper nigrum

Standardization of Agnimatra in the Preparation of Herbomineral Preparations w.r.t. Pharmaceutical and Analytical Study of Kaphakunjar Ras

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Standardization of Rasaushadhies (herbomineral preparations) is the global issue now, as it involves various complicated processes such as Shodhan, Maaran and Pachan. Kaphakunjar ras is a preparation that involves heating up to 3 h, which needs to evaluate and standardize. This study aims towards evaluating the method and amount of heating up to which Shankha and material within it is heated, so that it is easily converted into desire form for consuming. Preparation of Kaphakunjar ras is done according to traditional method. Heat for Pachan of Shankha is decided by experimenting with different methods considering that Shankha has to be converted in brittle and can be easily mortared. Method and amount of heat are decided for Pachan of Shankha on which it is easily converted to brittle form without hampering the materials within it. Pharmaceutical and analytical data are presented in the paper. **[PA-804]**

Keywords: standardization; Agnimatra; herbomineral preparations; Kaphakunjar ras

Ayurvedic Fermentation: the Protected Biotransformation

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The current investigation deals with the discovery of a novel method for the biotransformation process used domestically and industrially. The product formed by the above process is medicated because it releases some biologically active molecules to the medium, and thus the entire process is termed Ayurvedic. The currently used method for the transformation process is called fermentation, and thus we termed our method as Ayurvedic fermentation. The material that we used for the fermentation includes Woodfordia fruticosa (L.) Kurz—an important Ayurvedic medicinal plant. By implementing this method, all the adverse effects of the artificial fermentations can be nullified. The procedure includes simple method which can be easily carried out even within the domestic conditions. Comparative pharmacological and pharmacognostical studies were performed using the fermented products synthesized using the traditional and the newly discovered methods. Significant and vital differences were observed. The Ayurvedically fermented products showed significant enhancement in imperative biological activities. The beneficiaries of science we mounted here will be the entire human civilization. We recommend our method to be implemented in all the domestic and industrially using fermentation techniques. **[PA-809]**

Keywords: Ayurvedic fermentation; Woodfordia fruticosa; pharmacognostical; imperative biological activities

Role of Markers in the Standardization of Herbal Drugs

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Unlike synthetic drugs, herbal drugs are a complicated system of mixture. Thus, the methods used for the identification of 'herbal drugs' are mainly intended to obtain a characteristic fingerprint of a specific plant that represents the presence of a particular quality defining chemical constituents. The efficacy and safety of any herbal product are determined by the compounds (desired and undesired) that it contains. The purpose of quality control is to insure that each dosage unit of the drug delivers the same amount of active ingredients and is, as far as possible, free of impurities. Herbal drugs are composed of many constituents and are therefore capable of variation. The variability of the plant material is due to different conditions of growth, harvesting, drying and storage, and the instability of constituents may also influence quality of the drugs. Hence, great efforts are necessary to guarantee a constant and adequate quality. By carefully selecting the plant material and standardized manufacturing process, the pattern and concentration of constituents of herbal drugs should be kept as constant as possible. This paper presents the details of the study. **[PA-838]**

Keywords: quality; safety; efficacy; marker

An Efficient Method of DNA Extraction from Remote Locations without using Liquid Nitrogen from Medicinal Plants with High Content of Secondary Metabolites

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Intact high molecular weight plant DNA is essential for molecular studies and genomic DNA library construction. DNA extraction from some medicinal plants is limited because of the high contents of secondary metabolites that interfere with the extraction process or the subsequent analysis steps as well as degradation of DNA by DNases and other nucleases. Liquid nitrogen can be difficult to procure in remote locations; thus, a method not requiring its use would be helpful. Here, we describe a procedure for rapid, economical and high-throughput DNA isolation from Podophyllum hexandrum without using liquid nitrogen. In this protocol, the leaves are fixed in a fixing solution before CTAB DNA ex-

traction, making liquid nitrogen unnecessary. The aims and objectives are: to standardize or develop a method for rapid DNA extraction without using liquid nitrogen from some medicinal plants from remote locations, and to study the suitability of extracted DNA for various molecular biology applications such as RAPD-PCR, ISSR-PCR and PCR-RFLP. The leaves of five medicinal plants were collected from different remote areas (Tangmarg, Sona Marg, Gulmarg in Jammu and Kashmir) and other northern Himalayas.The leaves were dipped in fixing solution for 30 min to denature enzymes. CTAB method with some modifications was used to extract DNA. Integrity was checked on 0.8% agarose gel, and the quality was checked by taking the optical density λ260/λ280. The molecular applications were validated by performing RAPD-PCR, ASO-PCR and ISSR-PCR in all five plants samples. Results are as follows. The quality was checked by taking the optical density (OD) at λ260 with a spectrophotometer. The λ260/λ280 ratio was greater than 1.8 (ranging from 1.96 to 2.05), indicating DNA purity. The DNA integrity was checked on 0.8% agarose gel after staining with ethidium bromide to ascertain its integrity. The suitability of DNA isolated by this method was validated by performing RAPD-PCR, ASO-PCR and ISSR-PCR in all five plants. The uniform amplification was observed. To conclude, the liquid nitrogen can be difficult to procure in remote locations; thus, a method not requiring its use would be helpful. We have developed a protocol in which leaves are fixed in alcohol before CTAB DNA extraction, making liquid nitrogen unnecessary. DNA isolated by this method is suitable for various molecular biology applications. The assay proved to be economical, rapid and sensitive. **[PA-841]**

Keywords: DNA; extraction; liquid nitrogen

New Analytical Method Development and Validation for Polyphenolic Ayurvedic Herb

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Many polyphenolics Ayurvedic herbs are being used for wide variety of uses such as preventive, curative, supplementary and adaptogenic. The polyphenolics herbs, being synergic or additive in nature, are used in crude form or as purified or semi-purified extracts, and thus marker-based concept of analysis is not valid for such drugs. Thus, drugs containing phenolic compounds are required to be analysed differently for their total content of phenolics. The current work was undertaken with objectives of developing and validating analytical method for widely used traditional herb Butea as a representative herb containing phenolic compounds. The total phenolic content of extracts of Butea flowers was determined using the Folin-Ciocalteu method. The amount of total phenolics is expressed as gallic acid equivalents through the calibration curve of gallic acid. The developed method was validated and different validation parameters such as linearity, specificity, LOD, LOQ and precision were also checked. The results show that the proposed analytical method for measuring total phenolic content in Butea flowers was successfully developed and validated. Linearity was observed between 100 and 500 µg/ml and 20 and 100 µg/ml for gallic acid and phenolic content of butea, respectively. LOD was 20 µg/ml and 5 µg/ml for gallic acid and Butea extract, respectively. Butea extracts contained about 28% of GAE total phenolics. To conclude, the newly developed analytical method is fast, easy and cost-effective. This

makes it a better option for analysing phenolic content of Butea flowers and other similar traditional herbs, at lab scale as well as at industrial scale during routine quality control. **[PA-910]**

Keywords: phenolic; Folin-Ciocalteu method; Butea

Genetic Diversity by ISSR-PCR Markers in an Endangered Medicinal Plants Podophyllum hexandrum Royle (Indian May Apple)

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The hilly regions of Jammu and Kashmir are the home of numerous highly valued medicinal plants including Podophyllum hexandrum Royle (Indian May apple). It is recognized for its anticancer properties. The rhizomes and roots of P. hexandrum contain antitumor lignans such as podophyllotoxin. An understanding of the patterns of genetic variation within and among populations of P. hexandrum is essential for devising optimum genetic management strategies for their conservation. The objectives of this study are to develop a rapid, sensitive and an inexpensive method for DNA extraction from P. hexandrum without using liquid nitrogen, and to study genetic diversity in P. hexandrum using ISSR-PCR markers. The plant material used in the study of genetic diversity and population structure was obtained wild from 20 populations (20 sites), covering 10 geographical locations (forest divisions) with altitude ranging 1300–4300 m from the northwestern Himalaya region, Jammu and Kashmir, India. Each population consists of about 5–10 plants with different age groups (1st, 2nd, 3rd and 4th year). The CTAB method was used to extract DNA from P. hexandrum without using liquid nitrogen. The ISSR-PCR technique was used to study relationships and genetic polymorphism of 20 populations collected from different parts of the country, especially from the northern parts. Genetic similarities were calculated using NTSYS software, and the dendrogram was constructed using UPGMA method. Results of this study are as follows. Ten primers were selected from 35 ISSR primers, and 200 DNA fragments were amplified from 20 populations. Of which, 100 fragments were polymorphic (percentage of polymorphic bands was 86.8%). The genetic similarity among all accessions ranged from 0.569 to 0.855. Of the 68 ISSR loci tested, 88.23% was polymorphic. The genetic diversity was high (percentage of polymorphic bands, PBB = 83.82%). Analysis of molecular variance (AMOVA) indicated that 55% of the genetic diversity among the study populations was attributed to geographical location, while 29% was attributed to differences in their habitats. An overall value of mean estimated number of gene flow (Nm = 0.1618) indicated that there was limited gene flow among the sampled populations. To conclude, CTAB method without using liquid nitrogen turned out to be rapid, sensitive and an inexpensive method for DNA extraction. ISSR-PCR proved to be sensitive and rapid technique

suitable for the analysis of genetic diversity in P. hexandrum, and to preserve most of the species' genetic richness, future management efforts should consider the large and isolated populations recognised in our analyses. **[PA-911]**

Keywords: Podophyllum hexandrum; PCR; DNA; genetic diversity

Safety Profile of Rasaushadhis: Need of the Hour for Global Acceptance

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Quality and safety of the drug are the most essential aspects for their acceptance in the present scenario. Metallic preparations occupied a significant seat in Ayurvedic pharmacopeia and are routinely being practiced in since ages. The long history of their successful usage in different pathological manifestations is the ultimate proof for their safe, efficacious and nontoxic beneficial effects. But since past decade, few scientists from different corners of the globe started to raise concerns about safety of these time-tested formulations and opined that there have been numerous reports of clinically significant heavy metal poisoning related to their use. The objective of this study is to revalidate the actual safety and efficacy of these age old remedies based on ancient and current parameters. A H1 hypothesis is that strict ancient pharmaceutical protocol when followed will definitely fulfill the appropriate current technological standardization methods. Methodology includes regulatory standards for metal-based formulations, evaluation of the safety profiles by Ayurvedic way, characterization of Rasushadhis by advanced analytical technique and nanotechnology and toxicity studies. The results reveal that the retrospective data about safety of rasaushadhis are obtained and details will be presented in full text. **[PA-958]**

Keywords: safety; Rasaushadhi; standardization; nanotechnology

Implementation of Pharmacovigilance in Rasakalpa Manufacturing and Practice

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Rasaushadhies were widely accepted and safely used since long. However, in the current scenario increased demand resulted in adulteration, etc., leading to causation of ADR. In media, negative articles are published regarding metal toxicity where biased samples are used and unnecessarily rasakalpas are targeted. The objective of this study is to implement pharmacovigilance in rasakalpa manufacturing and clinical practice. The hypothesis is that mere GMP, ISO, etc. are not sufficient to control and regulate rasa pharmaceuticals and rasa vaidyakam. For checking the indiscipline, the pharmacovigilance implementation in this sector will be helpful. The manufacturers of Rasaushadhies should strictly follow safety profiles, quality control measures, metal toxicity studies, classical and up to date technological assessments, etc. The practitioners of Ayurveda using Rasaushadhies must be vigilant enough to find out adverse drug reactions, drug interactions and untoward effects if any, when used according to the norms. The results show that pharmacovigilance is required in every field of medical practice. Hence, the prospective observation and information from all corners of India must be collected in the coming years to answer global blame of pseudo metal toxicity. To conclude, pharmacovigilance system should be implemented in national drug regulatory system. The paper presents the full details. **[PA-961]**

Keywords: pharmacovigilance; Rasaushadhies; adverse drug reaction (ADR); GMP

Development and Standardization of Polyherbal Tooth Powder Fortified with Goghruta and Evaluation of Its Antimicrobial Properties

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Herbal remedies in traditional healing systems are the important sources for the discovery of new antimicrobials against resistant strains of bacteria. The objective of the study was to develop, standardize and evaluate antimicrobial property of polyherbal tooth powder for preventing and controlling dental caries. The formulation was developed using Suvarn Gairik, Trifala, Trikatu, Kapurkachari, Babool chhal, Jyeshtamatha, Loung tail, Kapoor, Ajwain sat, Pudina sat and Goghruta. The formulation was standardized using physicochemical parameters such as particle size, moisture content, extractive values, ash values, microbial count, heavy metal, pesticidal residue and HPTLC. The extracts were prepared in ethanol, methanol, acetone and DMSO and were screened for their antimicrobial activity using the agar well-diffusion method. They were tested against Staphylococcus aureus, Escherichia coli, Actinomycetes sp., Pseudomonas sp. and Pseudomonas aeruginosa. The study promotes rural industrialization using natural resources. **[PA-1108]**

Keywords: rural; goghruta; caries

Pharmaceutical Standardization and Stability Study of an Ayurvedic Arishta Kalpana 'Shirisharishta'

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The debate over shelf life of Ayurvedic formulation is again started after the implementation of government notification for the shelf life of the Ayurvedic dosage forms under rule 161B, in which the Asava-arishta are specified as having 'no expiry date' and advised that the efficacy of these types of formulations increases with passage of time. Although the available classical reference is supporting the claim, yet it requires evaluating and re-establishing the same on current scientific pattern for universal acceptance. In this study, an attempt was made to evaluate the pharmaceutical stability of a classical Arishta formulation Shirisharishta preparing three batches of its fresh and 1-year-old samples stored in porcelain jar. The samples were assessed for their organoleptic and physicochemical properties during in-process and at the interval of 0, 3, 6, 9 and 12 months of storage, which shows a great variation in most of the properties which may be helpful in establishing pharmaceutical standards for the formulation. HPLC study on fresh and 1-year stored sample also shows significant changes. Accelerated and real-time stability study was also conducted on the samples in stability chamber under specified condition, which shows insignificant changes in 6 months of study. **[PA-1201]**

Keywords: shirishrishta; standardization; stability study; Saviryata Avadhi; Siddhi Lakshana

Stability Study of Bacopa monnieri Linn.

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Bacopa monnieri Linn., commonly known as Brahmi, from the family Scrophulariaceae, is used as a nervine tonic or brain tonic in Ayurveda and also in the indigenous system of medicines. The major bioactive constituents of the plant are tetracyclic triterpenoid saponin and bacoside A&B, along with other saponins known as bacopaside. The plants were collected from cultivator. They were authenticated botanically and standardized as per API(1). Limit test for heavy metals, limit test for arsenic and presence of Aflatoxin were also studied. Stability study of B. monnieri was studied as per ICH guidelines. Samples were drawn intermittently and re-tested for change in organoleptic characters, physicochemical parameters, microbiological analysis and assay of bacopaside-I by HPLC(3). It was observed that the bacopaside-I, the active constituent of B. Monnieri, has a very short stability. **[PA-1206]**

Keywords: B. monnieri; stability study; Bacopaside-1

'Ayurinformatics': Need of the Hour

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Ayurveda, the traditional Indian medicines remains the most ancient yet living traditions. Information technology is currently taking centre stage and has transformed the entire world into a global market, which is demanding the dependency on the gates of information technology centre. Globalization and vast spreading competition all around have accelerated the need for knowledge intensive work performance in all the sectors of economy. The globalization, product patency, intellectual property rights issues and most important bio-piracy all such issues are becoming major challenges in the traditional indigenous medical (TIM) system like Ayurveda. Efforts to monitor and regulate Ayurvedic traditional medicines are under way. Existing iInformation and communication technology (ICT) implementations are mostly, and to be specific largely, top-down in their flow of information, i.e. from experts to target groups. Ayurveda requires restructuring globally to meet the rising demands of a cyber mobile society with the application of ICT. This paper discusses the impact of IT and the advances in ICTs in this scientific age .Therefore, Ayurveda needs Ayurinformatics to keep pace with this modern world. **[PA-229]**

Keywords: Ayurveda, Globalization, ICT, Ayurinformatics

ICT and Ayurveda

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Ayurveda is an ancient system of health and medicine practised in India. It is unfortunately known more for its commercial rejuvenating spas than as a 'science'. Science is defined from a western framework as an objective system that works the same for everyone and everywhere. Ayurveda, in its approach, takes a variety of factors such as age, climate, diet, and stage of the disease into account and hence prescribes different treatments in different situations (though the 'disease' may be same). It is not objective in the sense of western science as defined above, but it has its own systematic methodology of reasoning. Denial of the label of 'science' creates an obvious bias; Ayurveda is seen as a 'lesser' medical system compared the western medical system. This perception needs to be changed and information and communication technology (ICT) can play an important role in it. Virtual communities (mailing lists, e-groups, and discussion forums) created through ICTs cut across geographical barriers and are able to interact with people physically distant from

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them. Logical groupings of common interest share their own experiences, which are easier to evaluate empirically. Multiple views are gathered in one place, which helps to go beyond experts, which could definitely change the perception of Ayurveda. **[PA-270]**

Keywords: Ayurveda; ICT; virtual community

Ayurvedic Journalism: Polishing the Old Gold

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It may be stated that Ayurveda is entering into a new era of publishing with the increasing thirst of research intellects for updating and advancing the knowledge. Research journal is a strong media for dissemination of knowledge having great impact on developing the milestones of science. Almost all the landmarks of progress in modern medical community are produced by scientific journals. Science would have been dead without publications. The Indian Ayurvedic community is now feeling the urge to publish research work for many reasons. As a result, recently some new journals are introduced in the field of Ayurveda. However, still it is a beginner's stage for Ayurvedic research publications on international platform. The present study reveals some facts about the need of publications in Ayurveda, and overviews old and new Ayurvedic journals in order to create awareness about scientific publications in Ayurveda. Research in Ayurveda is like mining for gold and publications would be like polishing that old gold which has more shine. Also investment of time in this gold will ultimately result in better returns to the medical society. This paper presents the details of pitfalls and solutions in Ayurvedic publications. **[PA-337]**

Keywords: publication; research journals; dissemination of knowledge

Research Database on Indian Systems of Medicine, other Traditional Medicines, and Related Sciences Research: a Need of the Hour

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The Central Council for Research in Ayurveda and Siddha (CCRAS) has initiated the task of developing Research Database on Ayurveda, Siddha, and other Traditional Medicines and Related Sciences Research to make available the data [both unpublished (PG/PhD) and published in journals] at a glance to the scientific community, academicians, and industries, which would help in appraising the research for further planning, to avoid repetition, to find out collaboration, and to explore new areas of research initiatives. The National Institute of Indian Medical Heritage (NIIHM), CCRAS, Hyderabad, has been entrusted to execute this task, to compile the data of research abstracts, and to develop web-based research database for online access and online submission of data. NIIHM, CCRAS coordinated and compiled research abstracts from various institutes and developed the online database. This institute intends to gather further more research abstracts from scientists, academicians, industries, universities, etc., to make this database a more comprehensive one and up to date. The wide range of contributory disciplines for this database includes Ayurveda, Siddha, Unani, Yoga and Naturopathy, Botany, Biochemistry, Phytochemistry, Inorganic chemistry, Pharmacology, Veterinary sciences, Agriculture, Horticulture, Food Science and Technology, Pharmaceutical sciences, Systems biology, and all other related disciplines. A web portal has also been developed to facilitate the viewers for online access as well as submission of research abstracts (presently online access is possible through search option (http://ccrasrdb.ap.nic.in) and online submission facility will be commenced shortly. Contributors can also provide their research abstracts by sending hard/soft copies to NIIHM, Osmania Medical College Building, Putlibowli, Hyderabad (email id: iihm@ap.nic.in, iihm_ccras@yahoo.co.in). The received abstracts will be checked for appropriateness and placed in the online database, if found suitable. If abstracts have any errors/insufficient data, that will be communicated to contributor for needful modifications. This paper presents the detailed functionality of this research database, applications, and method of online submission of abstracts, etc. **[PA-1166]**

Keywords: CCRAS; NIIMH; research; abstracts; online access; online submission

Clinical Evaluation of Ayurvedic Program on Muscular Dystrophy: 55 patients

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Neuro-muscular disorders are a formidable challenge to practitioners and patients usually considered incurable. Genetic and acquired neuro-muscular diseases represent a major cause of mortality and morbidity in children and adults with a prevalence of more than 5% in the general population. Clinical evaluation involving Rasayana-based Ayurvedic herbs along with Til-Mash panda swedana; Shat-Bala Prasarani Anuvasana Vasti and Yogic support yielded mixed results in 55 boys with 28 Duchenne Muscular dystrophy (DMD); 19 with Beckers Muscular Dystrophy (BMD) and 8 boys with Limb Girdle Muscular Dystrophy (LGMD). Although this Ayurvedic programme did not have the hope for the genetic effect of restoring dystrophin production, it did reduce serum CK levels. This could be a sign of decreased muscle damage. As there was definite improvement in functional ability, it is possible that complementary Ayurvedic treatment allows longer survival with minimum disability. **[PA-1216]**

Keywords: neuro-muscular disease; muscular dystrophy; Mamsagni Rasayana; DMD; BMD; LGMD

Speech and Language Disorder: an Ayurvedic Approach

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Speech which is the way of communication and produced by jihwa, in its minutest form is always associated with language which is a complex symbolic system for expressing, receiving and comprehending words. Here speech is restricted to external function of Vageendriya, whereas language to the internal function. When we broadly see the Vageendriya, it may include only Jihwa. But if we see it minutely, it not includes only jihwa but also part of brain, speech apparatus, ear, and its centers in brain. Speech and language functions are of fundamental human significance, both in social interaction and in private intellectual life. When they are disturbed as a consequence of brain disease, the resultant functional loss exceeds all other in gravity—even blindness, deafness and paralysis. Broadly viewed, language is the mirror of higher mental activity (Pranavata function). In a narrower context, language is the means whereby patients communicate their complaints and problems to the physician and at the same time the medium of all delicate interpersonal transaction. Therefore any disease process that interferes with speech or the understanding of spoken words touches the very core of the physician patient relationship. The study of language disorders serves to illuminate between psychological functions and the anatomy and physiology of the brain. The derangement of language function is always a reflection of an abnormality of the brain and more specifically of the dominant cerebral hemisphere i.e. defects in the function of Pranavata. A speech disorder may have similar origin or may be due to extra cerebral mechanism involving the defect in the function of Vyana and Udana Vata. Considering the overall pathology of speech and language disorders the evidence of involving Shiras, Prana, Udana, Samana and Vyana vata is seen. The pathology may be of Avarana form as in case of paranavrita Samana (cha.chi.28/204), Kaphavrita Udana (A.Hr.Ni.28/41), Pakshaghata (A.Hr.Ni.16/47), Indriyagata Vata (cha.chi.28/29), Ardita (cha.Chi.28/41), Pakshaghata(A. Hr.Ni.15, Su.Ni.1, cha.chi.28) and may be of Dhatukshaya like Cerebellar disease etc. The modalities of treatment in these conditions include Virechana, Basti, Nasya, Masthiskya adi Shodhana Therapies and other Shamanoushadhies. Depending on the Dos has involvement and the type of samprapti, the treatment modality is selected. Some studies conducted in GAMC, Mysore and Private Hospital, Mysore on some of these disorders have shown significant results. A study conducted on Bell's palsy where Dysarthria is common with Ksheera dhooma helped a lot in relieving the problem. Studies done on UMN type of facial palsy and also in different types of Aphasia with Dashamoola Erandadi Nirooha Basti followed by Masha Taila Nasya has helped a lot. In Parkinson's disease Matra Basti of Mahamasha Taila showed moderate results. Studies done on Cerebella Syndromes did not show good results. Cerebral palsy patients showed moderate improvement. [PA-1259]

Keywords: Speech and language; Pranavata;

Integration of Ayurveda into European Education System

George P Eassey

This paper discusses the following points: (1) the importance of Ayurvedic education and awareness in European conditions; (2) initial stages of generating awareness in lay public; ((3) advanced stages in the process of increasing awareness – challenges and steps to be done; (4) collaboration with the academic sector to initiate the process of integration of Ayurveda into the mainstream college level education, leading to a full fledged curriculum in Ayurvedic Medicine; and (5) synergic approach of Ayurvedic medicine providers, local government/education bodies and Indian government to achieve the integration of Ayurveda into European education system.

Evaluation of Safety and Efficacy of a Herbo-Mineral Formulation in Benign Prostatic Hyperplasia

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Benign prostatic hyperplasia (BPH) is one of the most prevalent geriatric health problem. In the present health scenario, patients have only few options. Currently available allopathic medicines have strong side effects. Surgery, which is considered as the treatment of choice, is not well tolerated by old age people and recurrence is also common. The study was an attempt at formulating an ideal drug for the condition and to evaluate its safety and efficacy. The hypothesis is that the newly developed formulation is safe and efficacious in BPH. The drug formulation was a combination of Laghu Lokeswara Rasa in bhasma form combined with aqueous extract of Vasthyamayanthaka Ghritha Yoga in a definite proportion. The medicine was dispensed as 500 mg capsules. A quasi-experimental study was conducted at Government Ayurveda College, Thiruvananthapuram, on a group of 20 patients who volunteered for the study, who satisfied inclusion and exclusion criteria. For clinical assessment of the efficacy of the new drug, reduction in the volume of prostate as evidenced by ultrasound scan is fixed as the primary outcome and reduction in the International Prostate Symptom Score (IPSS) index approved by WHO as secondary outcome. The outcome evaluations were statistically analysed. Experimental evaluation: X-ray diffraction studies were carried out at Regional Research Laboratory (RRL) to detect the chemical nature of the drug. Atomic absorption spectra (AAS) studies were carried out in ISRO to find out the heavy metal content in the final product, and chemical evaluations were done to standardize the drug. Results show that the X-ray diffraction studies and chemical analysis revealed the presence of CaCO3 (92.8%) and sodium borate (7.2%), which are two safe compounds. AAS studies revealed the presence of 1300 ppm of mercury in the mineral component and only 1–2 ppm of mercury in the newly developed formulation, which proves that the modification has considerably reduced the mercuric content, which makes the new formulation more safe and acceptable. At the same time, the herbal component in the formulation acts as a vehicle in bringing the mineral drug into the urogential system and thus increases its bioavailability. Coming to the clinical evaluation, reduction in the prostate volume assessed by ultrasound scan and reduction in the symptoms assessed by IPSS were statistically highly significant. **[PA-112]**

Keywords: benign prostatic hyperplasia; geriatric; atomic absorption spectra; X-ray diffraction; International Prostate Symptom Score

Etiopathogenersis of Parinamashoola and Role of Endoscopic Study in its Diagnosis

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The aims and objectives are to study the clinical observations of Parinama Shoola and to analyse the endoscopic findings and different types of Parinama Shoola. The hypothesis is that the study of Parinama Shoola in the light of endoscopic evaluation is one such method to arrive at precise diagnosis that helps the clinicians for a precise treatment at the earliest. Hence this study is taken. Special proforma is prepared at all points of history-taking and examination with respect to symptoms and signs of Parinama Shoola (APD) are made as mentioned in our classics and allied science. Later these patients are subjected to endoscopic examination to identify the changes in the oesophagus stomach and duodenum. Twenty patients were categorized into groups of different diseases according to endoscopic and clinical findings. In this study, all the 20 patients show some or other endoscopic findings, and this wide range of endoscopic changes itself suggests the necessity of endoscopy to identify the different possibilities of acid peptic disorders which occur in the Parinama Shoola. This endoscopic finding suggests that Parinama Shoola is not a single disease entity, but it is a syndrome. **[PA-352]**

Keywords: Parinama Shoola; peptic ulcer, endoscopy, H. pylori; gastritis

Effect of Ayurvedic Immunomodulator on Treatment of Tuberculosis: a Case–Control Study

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The objective is to study the effect of Ayurvedic immunomodulator supplementation on outcome of treatment for sputum-positive pulmonary tuberculosis when given with anti-TB drugs under Revised National TB Control Programme (RNTCP). Totally 21 cases of sputum-positive pulmonary tuberculosis registered for RNTCP treatment in Alappuzha Tuberculosis unit were selected randomly to be included in the study. They were given one tablet of a commercially available preparation of an Ayurvedic immunomodulator twice daily during the entire intensive phase of the treatment. Sputum examination, weight and ESR were recorded at the start and end of intensive phase; 21 identical cases were taken as control. Of the 21 cases, 19 cases are converted to negative by the end of second month. Two cases remained positive (9.5%). The average weight gain was 2.5 kg and the average reduction in ESR was 30 mm/h. In control group, of the 21 cases, 15 were converted to negative and 6 remained positive. The average weight gain was 1.5 kg and reduction in ESR as 20 mm/h. There was one death in control group. To conclude, Ayurvedic immunomodulators seem to have a beneficial effect on treatment outcome of pulmonary TB cases getting anti-TB treatment. **[PA-614]**

Keywords: immunomodulator; RNTCP

Hrudaya-Dushti in Vishada vis-à-vis Cardiovascular Involvement in Depression: New Leads to Management Plans

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The objective of this study is to provide modern scientific insight into the involvement of Hrudaya in the pathogenesis of vishada vis-à-vis cardiovascular system involvement in depression with focus on neurocardiac regulation and parallels from concept of vata in Ayurveda. The hypothesis is that there is neurocardiac dysregulation in the pathogenesis of depression just as the description that there is hrudaya-dushti through vata in vishada. According to Ayurveda, vata regulates functions of manas (mind). The adhishtana (abode) of hrudaya vishada (depression) is a manasa roga as well as a vata vyadhi. In the modern parlance, depression involves neurocardiac dysregulation, and heart rate variability (HRV) parameters can sensitively measure this. The semblance in symptoms of neurocardiac dysregulation and impaired vata plus symptoms of vishada and depression are striking. Neurocardiac dysregulation hence represents the impairment of vata in vishada, and HRV parameters are objective measures of vata. Forty patients suffering from major depression were evaluated for their HRV parameters and compared with those of equal number of normal healthy volunteers. The results were interpreted according to their bearing on neurocardiac dysregulation vis-à-vis hrudaya-dushti through vata. To conclude, patients suffering from major depression do have neurocardiac dysregulation that can be effectively interpreted as vata prerita hrudaya-dushti in vishada. **[PA-702]**

Keywords: Vishada; cardiac autonomic functions; hear rate variability

Experience with Integrating Ayurveda with Conventional System in a Tertiary Care Hospital for Management of Osteoarthritis (Knee): A WHO Collaborative Study

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The Indian health policy 1983, National population policy 2000, ISM&H Policy 2002 and the National rural health mission (NRHM) are the policy recommendations for mainstreaming of AYUSH. Co-location of AYUSH is a main agenda of NRHM also. In some hospitals, the integration in terms of education, patient care and research is well established, but it is not popularized among health care providers in many other places due to various reasons. Ayurvedic Unit exists in Safdarjung hospital, New Delhi, since 1998, but functional integration in the form of referrals is not so well developed. To study the reasons for this and to create awareness about strength of Ayurveda among the allopathic service providers and the health care seekers through a systematic way, an operational study was conducted in Safdarjung Hospital, New Delhi, in collaboration with the Department of Orthopedics and WHO India office. The study covered 252 patients of osteoarthritis knee with the involvement of 30 orthopedicians in duration of 1 year. For the management of osteoarthritis, Yogaraja Guggul, Ashwagandha and mahanarayana taila were used along with lifestyle and dietary recommendations. The standard assessment criteria (WOMAC score, VAS, QOL, intake of rescue analgesics, adverse events, patients feedback, etc.) were used. The study provided data about the status of functional integration in the hospital, reasons for the lack of cross-referral system, benefits of Ayurvedic procedure for osteoarthritis knee, perception of the patients about the integration, etc. It was evident from the study that the continued communication and scientific approaches will ascertain actual integration, and osteoarthritis has good scope for developing integration model. The detailed outcome of the study including clinical data will be presented in the paper. **[PA-844]**

Keywords: orthopedician; osteoarthritis

Health Check-up: Ayurved Point of View

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The health checkup methods are useful to know about the status of health in a normal individual. For lower socioeconomic group in the society, health checkup in big hospitals is non-affordable. Ayurvedic concept for health checkup is described in classics. Dhatusamya Pariksha includes Svara, Varna, Abhyavaharana, Jarana, Vegapravartana, Indriyavyapara, Nidralabh, etc. Balanced state of Dosha, Dhatu, Mala and Agni can be checked by trividh pariksha. Physical examination with reference to srotas can assess the proper functioning of the organs. Body mass index and such other measurements are also useful. Patient education about certain techniques and proper feedback should be encouraged. Non-invasive, cost-effective and patient-oriented methods using simple apparatus for examination can assess the status of health. This serves the purpose of health checkup of up to the last person in rural areas of the country. **[PA-877]**

Keywords: Abhyavaharana; Vegapravartana; Ayurved

Preparation and Characterization of Chitin Dressings Containing Papain for Wound Debridement

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Wound debridement is essential for the removal of necrotic or nonviable tissue from the wound surface to create an environment conducive to healing. Nonsurgical enzymatic debridement is an attractive method due to its effectiveness and ease of use. Papain is a proteolytic enzyme derived from the fruit of Carica papaya and is capable of breaking down a variety of necrotic tissue substrates. The objectives of this study are to prepare and characterize dressing with papain as the debriding agent to remove necrotic tissue and promote wound healing. Membranes with papain were prepared using 0.5% chitin in 5% lithium chloride and dimethylacetamide solvent. Fluid absorption capacity, moisture vapour transmission rate, residual moisture content, bioburden level, effect of gamma radiation on microbial load and papain activity, microbial impermeability and bactericidal activity of chitin-papain dressing were evaluated. Results show that fluid absorption capacity of chitin-papain membranes varied from 4.00 ± 1.14% to 14.33 ± 6.57% in 6 h with different drying methods. Moisture vapour transmission rate of the membranes was 4285.77 ± 455.61 g/m2/24 h at 24 h and decreased to 3648.64 ± 315.59 g/m2/24 h at 48 h. Hydrolytic activity of papain based on caseinolytic measurements was not significantly affected by gamma irradiation at 25 kGy. The chitin-papain membranes were impermeable to different bacterial strains and also exhibited strong bactericidal action against both Gram-positive and Gram-negative bacteria. To conclude, the results suggest that the fluid handling characteristics and the antimicrobial properties of chitin-papain membranes are suitable for use as wound dressing with debriding activity. **[PA-919]**

Keywords: papain; chitin; wound; dressing; debridement

Management of Shakashrita Kamala w.s.r. Viral Hepatitis-B: an Observational Study

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Hepatitis-B is one of the most dreadful infectious diseases with major pathology lying in liver. It can be clinically compared with Shakashrita kamala explained in classics. According to WHO, it is estimated that around 2 billion people have serological evidence of HBV infection, and about 350 million people have been infected by hepatitis–B, making around 5% of world population. Hence, a research work was carried out, wherein 20 patients of Shakashrita kamala were screened for elevated liver function test and HbsAg. The objective of this study is to evaluate the combined effect of Trikatu Choorna, Swarasa of indigenous drugs and Shodhana. This is a single-blind observational clinical study with pre-

test and post-test design. Interventions are as follows: Trikatu Choorna 5g BID with honey and lemon juice, before food; KNABB Swarasa 30 ml BID with honey, before food; Moorchita Gritha for Sadya snehana; Trivrit lehya 30 g; duration: 90 days. Data were statistically analysed using paired t test. The above treatment given for the duration of 90 days showed statistically significant ($P < 0.001$) reduction in the values of liver function test. Thus study revealed that the above-mentioned formulation has significant role to play in the management of Shakashrita kamala viz. viral hepatitis-B. **[PA-923]**

Keywords: Shakhashrita kamala; viral hepatitis-B; Moorchita gritha

Ayurvedic Taxonomy: Implementations in Modern Medicine

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This study explains the science behind the newly defined term Ayurvedic taxonomy. We defined the phrase completely. Four plants were taken for the study. As per the Ayurvedic texts, the drug from the plant to be used is specified in such a way that the part which moves to a specific direction should be taken, specific time for the collection, the season of the collection, etc. The plant parts, mainly the root, show tropic movements. It implies that there should be some changes in the other part of the plant when compared to the specified part. In the current investigation, we proved that there is a significant difference in the chemical constituents between the specified and the non-specified part. The isolation of chemical constituents from the specified part will lead to the identification of new active molecules. A comparative in vitro pharmacological evaluation was also carried out using the two samples of all plants. It was very interesting to observe the dissimilarities between the two drugs; hence, the new term Ayurvedic Taxonomy was coined and defined scientifically. **[PA-927]**

Keywords: Ayurvedic taxonomy; phytochemical variations; pharmacological evaluation; tropic movements; active molecules

Comparative Antifungal Activity of Bakuchi and Chakramarda Beej: An In Vitro and Clinical Pilot Study

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Medicinal plants are playing a vital role in the treatment of various types of infections and infestations. Of them, fungal infections and their recurrences are common in India due to climatic conditions and poor hygiene. In Ayurveda, Bakuchi (Psoralea corylifolia) and Chakramarda (Cassia tora) are said to possess kaphaghna, kandughna, kushthaghna and krimighna properties. Current project is focused on the study of antifungal properties of Bakuchi and Chakramarda by in vitro culture methods, and a supportive pilot study in a disease called Dadru-a kshudra kushtha correlated with ringworm infestation. The aim and objectives of this study are to study the efficacy of bakuchi and chakramarda in dadru, and

to study the antifungal activity of bakuchi and chakramarda. The poisonous plate method or disc diffusion method will be used for in vitro studies. For the purpose of clinical pilot study, the patients from IPD/OPD of Government Ayurved Hospital, Nanded, will be taken and grouped as: Group A, receiving Bakuchi ointment; Group B, receiving Chakramarda ointment. The patients will be assessed for the parameters like itching score, size of lesion, etc. The paper gives details of study results and conclusion. **[PA-946]**

Keywords: Bakuuchi; Ckakramarda; Dadru; antifungal activity

Management of Osteoporosis in β-Thalassaemia

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With increased life expectancy of thalassaemic patients, osteopenia osteoporosis syndrome (OOS) is a major cause of bone pain of hip and spine and fragility fractures, especially of the lumbar spine. This may be found in 70%–80% of adult patients with **β**-thalassaemia worldwide, accounting for significant bone morbidity. At Thalassaemia Day Care Centre, SMS Medical College, Jaipur, patients with thalassaemia were observed for associated osteoporotic bone disorder. The commonest presentation observed was bone pain and backache with or without past history of fractures. According to Ayurveda, majja kshaya is the causative factor of this disease. While thinking osteoporosis in patients with thalassaemia, we have to consider more about dhatwagni vikruti rather than merely kshaya. Using various basic principles of formation of dhatu of body, Ayurveda provides the baseline for treating osteoporosis in thalassaemia. Pitta dhara kalaa is also majja dhara kalaa. Hence, the solution for this problem starts from GIT, and also different treatments such as Dhatwagni modification, degeneration prevention, compensating compromised body element through specific basti, sneha virechana, vid dravya, dhatu pachak dravya, nutritive supplements and Rasayana for specific Dhatu. The logic behind selection of particular line of treatment and the possible regimen for treating osteoporosis in thalassaemia are discussed in detail in this paper. **[PA-1015]**

Keywords: osteoporosis; β-thalassaemia

Infectious Diseases and Ayurveda

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There is a great controversy in modern time that Ayurveda has no mention of infectious diseases (bacteriology), as it is a talk in the sense of modern western medicine. Bacteriology came in existence after the invention of microscope and around 100 years

ago. Before that, there was no mention of bacterial causes of diseases in any pathology or medicine book, except few like malaria. Clinical pathology and blood and urine investigations etc. came in existence within 100 years. If we will go with the literature of Ayurveda, we will find the mention of some hidden creatures, like fungus, spores that can damage the human system which comes under Bhut Vidya and Vish Vigyan (Agad tantra). These Ayurvedic practitioners naturally shall have the capacity to invent and recognize the bacteria and bacterial-originated diseases, if they have invented microscope in their time. If we think about conditions of infectious diseases, we should first go through the study of Bhut Vidya, Kayachikitsa and Vish Vigyan, and we will get the answer as we expected. **[PA-1022]**

Keywords: infectious diseases; Bhut Vidya

Integrated cancer immunotherapy based on concepts in Rasayana: Opportunities and Challenges

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Modern biomedicine is reductionist and decisively objective in its approach. In contrast, Ayurveda is essentially a holistic and subjective science. The parallel practice of the two approaches, albeit offering certain benefits, has revealed limitations that cannot be dealt independent of each other. The presentation intends to give perspectives for creating a new paradigm of biomedicine, combining objective and subjective sciences in particular reference to personalized cancer immunotherapy based on the concepts in Rasayana. Rasayan is a distinctive mix of components that is formulated to provide nutrition, enhance immunity and to slow down the process of cellular aging. Considering a wide array of basic indications in health and disease, Rasayan probably has an extended application in enhancing the treatment for cancer, (1) to provide nourishment for normal cells in cancer patient and to prevent cell death due to starvation, (2) to offer protection against adverse effects of certain conventional treatments, (3) to change the biology of cancer cells by making them more sensitive to conventional treatment, and (4) to boost the immunity against cancer induced by conventional methods such as active-specific immunotherapy, adoptive immune cell therapy or passive therapy. However, the challenges are the likelihood of undesired nutritional support of rasayans to cancer cells which may augment cancer cell proliferation, unwanted augmentation of immunosuppressor mechanisms that will inadvertently promote the growth and spread of cancer, and sensitization of the normal cells to increased damage to conventional treatment. There is an urgent need to establish new treatment approaches based on mechanisms of immune-enhancement against cancer and nutritional dynamics of normal and malignant cells. The paper aims to achieve the following objectives: the understanding of the biology of cancer from the immunological perspectives in Ayurveda and conventional biomedicine; (2) the current modern understanding of relationship between immune system and cancer in terms of cancer control and promotion, and find an approach through Rasayana; (3) the integrated approach of active-specific immunotherapy, adaptive cell immunotherapy and passive immunotherapy to combat cancer - a new paradigm in cancer treatment; (4) how best to utilize the nutrition dynamics influenced by Rasayans in cancer settings?

Potential Impacts of Genetic Engineering on Ayurveda

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It is well recognized that modern science is very useful to Ayurveda in that it provides effective methods of testing and quality assurance that can and should be used in Ayurveda to assure hygiene, verify authenticity of herbs and ingredients, verify consistency and effectiveness of processing, mixing, inventory management, packaging, distribution, etc. However, in recent years, enthusiasts have been promoting the idea that one very new branch of modern biotechnology, genetic engineering, offers great promise for the future of Ayurveda. It is claimed that genetic engineering can be used to make Ayurveda more effective, profitable, and attractive. A typical claim is that genetic engineering can improve the potency of the medicinal plants used in Ayurveda and thereby bring amplified economic benefits to the developers. This paper explores the accuracy of these claims, considering whether the new and relatively untested technology of genetic engineering will influence Ayurveda positively, or whether it will be damaging to this ancient and time-proven science of health and well-being.

Keywords: modern science; genetic engineering; medicinal plants

Ayurveda and Integrative Physical Rehabilitation

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Ayurveda with its different kinds of massages and oil application becomes a perfect science among the alternative medicine which can be integrated into modern medicine subspecialties like Physical and rehabilitative Medicine. The real challenge is to find out hospitals or centres, which would understand the concept of integration. Scope of this unique field is enormous and encouraging, provided more and more people come forward to this concept. Here I am examining some medical conditions, which can be managed with integrative care and examining why it is superior to either of the treatment modalities alone. When we speak about integrative physical rehabilitation, it can be from mild cases of muscle ache resulting from spasms to major conditions like spinal cord injury and stroke. Ultimately patients would be a winner if we can come up with more centres with an outlook on rehabilitation through integrated approach. Then it would be a perfect platform for doing some clinical trials to cement its role in mainstream medicine.

Keywords: integrative medicine; physical and rehabilitative medicine

Preclinical Studies of Anti-Atherosclerotic and Anti-Diabetic Potential of Ayurvedic Drug Murraya koenigii Linn. Seeds and its Isolated Crude Sapogenins in Experimental Rats

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Cardiovascular disease is the number one cause of death globally and is projected to remain the leading cause of death. An estimated 17.5 million people died from cardiovascular disease in 2005, representing 30% of all global deaths. Of these deaths, 7.6 million were due to heart attacks and 5.7 million were due to stroke. Around 80% of these deaths occurred in low- and middle-income countries (LMIC). If appropriate action is not taken, by 2015, an estimated 20 million people will die from cardiovascular disease every year, mainly from heart attacks and strokes. Ethanolic extracts of seeds (100 and 200 mg/kg bodyweight) of Murraya koenigii as well as sapogenins (10 mg/kg bodyweight) isolated from its seed were investigated for lipid-lowering activity on triton-induced and high fat diet-induced model. Serum lipids were found to be lowered in both models and data were analysed statistically significant. In acute studies of triton-induced model, ethanolic seed extract (100 and 200 mg/kg bodyweight) decreases serum total cholesterol, triglyceride and LDL-cholesterol levels by 29.69% and 36.30%, 48.74% and 54.27%, 40.17% and 53.51%, respectively. While isolated sapogenins (10 mg/kg bodyweight) decrease serum total cholesterol, triglyceride and LDL-cholesterol levels by 29.42%, 39.57% and 43.41%, increase in HDL level in ethanolic extract with the above dose was 5.13% and 9.36%, and in case of sapogenins it was found to be 3.79%. In chronic studies of high fat diet-induced model, ethanolic extract of seeds (100 and 200 mg/kg bodyweight) decreases serum total cholesterol, triglyceride and LDL-cholesterol levels by 41.19% and 47.92%, 31.15% and 39.85%, 58.79% and 68.18%. In case of sapogenins (10 mg/kg body weight), decrease was 47.91%, 32.09% and 71.63%. Increase in the level of HDL-cholesterol level in ethanolic extract (100 and 200 mg/kg body weight) and sapogenins (10 mg/kg body weight) was found to be 62.43%, 73.92% and 82.18%, respectively. The seed extract of M. koenigii not only decreases lipid profile but also decreases the value of serum glucose in the same dosage regimen as 21.54% and 27.48%, and its sapogenin decreases the level as 20.49%. Our study also revealed that the sapogenins are major contributor of the observed lipid lowering activity as well as antidiabetic activity, and thus may be suitable drug candidates worthy of pharmaceutical investigation. **[PA-2]**

Keywords: atherosclerosis; hyperlipidemia; antidiabetic; triton-induced; high fat diet-induced model; Murraya koenigii; sapogenins

To Study the Efficacy of Punarnavadi Taila Matra Basti in the Management of Vataj Hrudroga

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Over the year, the heart has become more and more vulnerable to derangement with the result that cardiac disorders have become one among the major killers of the present days in developed and developing countries. Basti chiktsa has been advocated and practiced by Ayurvedic clinicians. Basti chikitsa is the more therapeutic effect than other types of treatments that are used to cure various chronic illnesses. In this context, scientific explanations are highly warranted, establishing the efficacy of such treatment. The aim and objective of the study was 'to study the efficacy of punarnavadi taila matra basti in Vataj Hrudroga' and to study conceptual aspect of basti karma through Ayurvedic literature. For the study, 60 patients having symptoms of Vataj Hrudroga like Hrudshul (chest pain), Hrudrava (palpitation), Swasawarodha (dyspnea), etc. were selected from IPD and OPD of GAC Nanded. Patients were treated under two groups: Group A (trial group): 30 patients were administrated the matra basti of punaranavadi taila only. Group B (control group): 30 patients on placebo treatment. After the study, it was observed that the relief of symptoms in experimental group was statistically significant, which suggests that punarnavadi tail matra basti is efficacious in Vataj Hrudroga, and in control group it was observed that no relief in symptoms of Hrudshul, Hruddrava and Shwasawarodha. Also, both the groups showed relief in psychological symptoms like Shoka, Bhaya, etc. No side or toxic effects were noted in any of the patients during the trial period. **[PA-73]**

Keywords: Vataj Hrudroga; Punarnavadi Taila; Matra Basti

Dosha Dushya Vivechana in Hypertension: Clinical Study

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Hypertension (HTN) is an important health problem of modern society. Most importantly, it is a single factor responsible for death from cardiovascular and cerebrovascular diseases. The incidence of HTN tends to rise with advancement of age. Hypertension as such has not been described in Ayurveda, and there is no direct reference of HTN, but some signs and symptoms mentioned under different conditions make us to feel that it was already mentioned earlier. On theoretical grounds, it has been tried to correlate many conditions such as Raktagata Vata, Rakta Pradusha Vikara, Raktavrtita Vata, Siragata Vata, Rakta Vriddi, Pittavrita Vata, Pittavrita Udana, Brama, Mada, Murcha, Sanyasa and Damani Praticharya. Some scholars differ from this and prefer to give Raktachapadhikyata, Uccha Raktabhara, Vyanabala Vaishamya, etc., as there is no clear-cut correlation with any Ayurvedic disease and less understood about the involvement of dosha and dushya in HTN.

Hence, it is difficult to treat the HTN according to Ayurvedic line of treatment. Keeping the above view, an observational study was conducted in Central Research Institute of Panchakarma Cheruthuruthy, Kerala, to evaluate the dosha and dushya vivechana in essential hypertension. Pre-test-designed observational study was conducted in 49 cases at OPD level. Assessment criteria were based on subjective parameters such as headache, giddiness, palpitation, insomnia, fatigue and chest pain. After analysing the dosha and dushya in the above symptoms, it is concluded that HTN is Vata Pradhana- and Pitta-associated disease and dushya involved is Rakta, and the statistical analysis of vital data and biochemical data are discussed in the full paper. **[PA-109]**

Keywords: Panchakarma Cheruthuruthy; hypertension; fatigue; Dosha Dushya Vivechana

Pre-clinical Evaluation of the Action of Hridayarnava Rasa on Lipid Profile Assay

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There is no need to explain the graveness of heart diseases in today's sedentary lifestyle. Myocardial infarction is one of those acute conditions which even today remains one of the biggest threat to human life. Hyperlipidaemia is considered as the commonest cause for coronial heart diseases and the resulting myocardial infarction. Hridayarnava Rasa is a herbo-mineral preparation indicated in many Ayurvedic texts for heart ailments. Although said to be useful in all heart ailments, it is specially indicated in Kaphaja Hridroga. Keeping this in view, a 28 days preclinical trial using Hridayarnava Rasa as the drug of choice and lipid profile assay as the variable were done in rats. Normal healthy rats were selected in the experiment. Hyperlipidaemia was induced using a high fat diet. The animals were then administered the drug in the calculated dose. Lipid profile assay (total cholesterol, S. triglycerides, LDL, HDL, VLDL) of pre-treatment and post-treatment were measured and compared for the evaluation of therapeutic effect. The results were encouraging as far as the assay was considered. It also helped to design a hypothesis about the probable action of Hridayarnava Rasa. **[PA-377]**

Keywords: hyperlipidaemia; myocardial infarction; Hridayarnava Rasa; herbo-mineral preparation; pre-clinical trial

Study of Serum Cholesterol, Lipid Profile and Thyroid Concentration in Medorog

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A study was conducted to determine the effect of oral mode of drug administration in the form of lekhniya mahakashaya ghanwati (LMG) and niruha vasti on serum cholesterol, lipid profile thyroid concentration, skin fold measurement and BMI of obese patients. A total of 60 non-diabetic, non-hypertensive human subjects of either sex (men: 16, women: 44; median age 35 years) were included in the study. They were selected randomly on the basis of body mass index (BMI), waist hip ratio, skin fold measurement and eight charkoat clinical symptoms such as aayusohrasah, javoprodhah, krechhvyavayt, daurbayam, daurgandhyam, swedabadaha, kshudatimatra and pipasaatiyoga. Each group was further divided into three subgroups: A (oral), B (Niruh vasti) and C (Placebo) according to the mode of drug administration. LMD was prepared using 10 drugs (Cyprus rotundus, Saussurea leppa, Curcuma longa, Berberis aristata, Acorus colames, Aconitum heterophilum, Ticrorhiza kurra, Plamcadozeylanida chirbilya, Anncraipalia, Aris tnsata). Various statistical techniques, such as descriptive statistics, ANOVA followed by Duncan's multiple-range test and t-test were used to investigate data. Results of ANOVA clearly indicate a statistically significant ($P < 0.01$) effect of mode of drug administration on all parameters excluding thyroid parameters. Higher percentage of obese patients showed normal serum cholesterol, lipid profile, skin fold measurement and BMI when treated through niruh vasti mode of administration as compared to that of placebo and oral mode of treatment. In conclusion, treatment of obesity varies according to its mode of interventions. Further extensive investigation is mandatory to have a deeper insight of this phenomenon. **[PA-483]**

Keywords: obesity; lekhniya mahakashaya dhanwati; oral treatment; niruh vasti treatment

Prevention is Always Better Than Cure: Ayurveda as Dietary Supplement in Overweight

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Nowadays changes in dietary practices, physical activity levels and lifestyles associated with rising affluence contribute to increasing prevalence of overweight in all the age group of society. Obesity has reached epidemic proportions in India in the 21st century, with morbid obesity affecting 5% of the country's population. The nutrition foundation of India study has shown that 32.3% of middle class men and 50% of middle class women in Delhi were obese. Twenty million Indians are obese and by 2025 the expected number is 68 million. We should have to take a medicinal substitute in the form of dietary intake, which can be easily be practiced as a routine. The aims and objectives of this study are as follows: oat is considered as a kudhanya in Ayurveda. But nowadays, oat is commonly used as a weight-reducing diet. Hence, the study is designed to evaluate the lekhan property of oat in overweight/obese. Pharmacognostic, phytochemical and nutritional assessment studies were done. Prospective, randomized clinical trial was performed. Satisfactory results are found. Data will be discussed at the time of presentation. **[PA-899]**

Keywords: obesity; kudhanya; lekhan; oat

Lifestyle Disorders in Children and Their Ayurvedic Approach of Management

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Over the last decade, the pace of advancement in electronic technology has been breath-taking, resulting in quick development in all aspects of life. But dependency and excessive use of electronic technology forced people to adopt unhealthy life style. This unhealthy and inactive lifestyle in turn was adopted by children through their crucial method of learning. Therefore, to find out the lifestyle disorders in children, a self-selected survey was conducted by 'given Questionnaires method'. A random sample of 450 children was collected from different elementary and higher secondary schools of Jaipur. The survey was conducted in two phases: the first phase of was to find out the present lifestyle choices of the children and their involvement with various related disorders. In the second phase, management was the area to work with. Hence, the guidelines for healthy lifestyle on the basis of Ayurvedic fundamentals were offered to the affected children. **[PA-1060]**

Keywords: lifestyle disorder; children; Ayurveda

Concept of Lifestyle Disorders and their Ayurvedic Management

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Ayurveda, being a holistic system of medicine, has got beautiful concept of Man cum Environment. It is quite close to the Nature. Lifestyle disorders are the results of our misdeeds and over-ambitious attitude without practicing our ethical moral values and running behind blindly in the race of pseudo prosperity. There has been a drastic change in our daily routines, night sleeps and dietary habits. Hence, the number of disorders is increasing continuously. We are confronting with an environment that leads to increased stress. Global warming, environmental pollution and climatic changes are our own creations.. Hence, it has become a global concern to get rid of this problem. In this connection, it is advised to popularize our moral values and treasure of dietetics and Rasayana drugs, beside our ideal day, night and seasonal regimens for betterment of suffering humanity. **[PA-1209]**

Keywords: lifestyle disorder; Ayurvedic management; Rasayana

Issues with Raw Drugs in Clinical Practice of ISM

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Dravya, the tool of vaidya for treatment, was given prime importance next to Bishak. Because management of diseases using medicines comprises the major part of treatment in Ayurveda, the word Dravya often employs to symbolize drug. The source of Ayurvedic drugs constitute either plant, animal or mineral origin. However, plant source constitute about 80% of materials used in this line of treatment. Even though the demand for this indigenous system is increasing, Ayurveda is facing challenges from the quality of raw drugs used in treatment. Most of these confronts remain hidden from the awareness of physicians who practice in this field. If there is a lack of positive response in treatment, physicians usually assume that prolong treatment is essential to get result or may be due to wrong diagnosis and wrong selection of treatments, but never think of the quality of raw drugs used in treatment. Recent survey by a central body of India observed that most of the raw drugs used in Ayurvedic medicine are of substandard quality. Hence, this is an attempt to make known the issues that lead to low quality raw drugs which will undeniably slowdown the disease curing process. Defects, such as sophistication, substitution, admixture, deterioration, spoilage, and inferiority, found in a survey conducted on different market samples of raw drugs in different places in India will be discussed in full paper with relevant facts and examples. **[PA-22]**

Keywords: raw drugs; quality; Dravya

Natural Pesticides in the Cultivation of Medicinal Plants

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Natural pesticides are best alternatives to conventional pesticides. Pesticides are harmful chemicals that have been linked to illness and disease. Due to this, more emphasis is being given to natural products. Many plants have been reported to exhibit insecticidal/insect-repellant effects. Pesticide, an active ingredient, means any ingredient which will prevent, destroy, repel, control or mitigate pests. Scope of pesticides: Easy to procure, easy to apply, action is fast, uniform dosage, less quantity. Advantages: hypoallergenic, protecting kids, pets, and less toxic to the environment. Disadvantages: Toxic effect, contamination of environment, damage to beneficial insects, accidental poising, vegetable contamination, slow acting, critical application, suppress, rather than eliminate, short shelf-life. Examples are plants used as pesticide: Acorus calamus; active components—trans asarone; pest—Athaliaproxima; activity—Anti-feedent repellent. To conclude: (1) pesticide residues in agricultural commodities are being the issue of major concern besides their harmful ef-

fect upon human life, wild life and other flora and fauna. Equally worrying thing is about the development of resistance in pest to pesticides. The only solution of all these is use of 'Natural Pesticides' that can reduce pesticide risks. (2) Developing modern pesticide along with their indiscriminate use has resulted in number of harmful side-effects in man and also development of secondary pests or resistance among insects; in this view, more emphasis is being given to natural pesticide. (3) The only solution for all these is use of 'Natural Pesticides' that can reduce pesticide risks. **[PA-108]**

Keywords: pest; pesticide; natural pesticides; toxic effect; harmful effect; contamination

Taxonomic Approaches for Sustainable Utilization of Medicinal Plant Diversity Authentically from Tribal Areas of Madhya Pradesh and Chhattisgarh

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India has been known to be a rich repository of medicinal plants since ancient time. The agro-climatic conditions prevailing in India provide an ideal habitat for the natural growth of variety of plants and herbs, which provide raw material for pharmaceutical, phytochemical, food flavoring and cosmetic industries. Medicinal and aromatic plants are gaining great importance in recent years. However, the availability of these plants is declining consistently due to one or other reasons such as increased demand, destructive harvesting, over exploration illegal trade, open grazing, forest fires, etc. The set-up of Medicinal Plant Board is an important step for promoting the cultivation of these plants. This board has formulated a centrally sponsored scheme for development of medicinal and aromatic plants during VIII plan period and continued these programs in the IX plan period, in which new additional programmes such as expansion for the farmers, strategy for the development of medicinal and aromatic plants, generation of quality planting material through herbal gardens and nurseries, arrangements for processing, distillation of essential oil, establishment of regional analytical laboratories area expansion, technology dissemination, marketing infrastructure, scope of cultivation in wasteland and intercropping of medicinal plants. To meet out the demand of authentic plant material from field and their sustainable utilization as per taxonomic approaches, followings aspects will be discussed in the present paper: (1) taxonomic approaches of biological screening of medicinal plants; (2) assessment of threatened status of medicinal plants as per IUCN; (3) commercial cultivation processing and marketing of MAP; (4) strategies for conservation of MAP through convention (CITIES) and traditional religious aspects. **[PA-276]**

Cultivation of Medicinal Plants from the Wild Flora in Chhattisgarh: Possibilities and Prospects

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The role of medicinal plants in traditional health care delivery in Chhattisgarh cannot be overemphasized. Unfortunately, the very foundation upon which the medicinal plant species and the traditional health care system survive is threatened by wide scale deforestation. The rate of deforestation has increased by 50% over the last 10 years, according to the UN Food and Agriculture Organization (FAO). Moreover, since the majority of the rural poor in Chhattisgarh depend on traditional medicine for their health care needs, the present high rate of deforestation will have a detrimental effect on the heath care delivery system in the country. Important plant species will be lost to deforestation unless urgent measures are taken. This paper examines the impact of deforestation on medicinal plants in Chhattisgarh. Research on the preservation and conservation of wild, medicinal plants in natural habitats has been used to select species for collections (ex situ and in situ) and cultivation. Not all valuable and rare species could be successfully cultivated, suggesting a need for efforts directed towards the creation in situ conservation projects of wild species in Chhattisgarh. **[PA-277]**

Keywords: conservation; deforestation, plant collections; traditional medicine; ex situ and in situ

Role of People's Biodiversity Registers in Conservation and Sustainable Use of Medicinal Plants with Reference to Different Gram Panchayats in Bidar District, Karnataka State, India

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Conservation and Sustainable Development were the main agenda of Convention on Biodiversity (CBD) held at Rio de Janerio, Brazil in from 3 to 14 June 1992. Including India, 188 nations were the signatories for the agreement to possess the sovereignty over the bioresources, conservation of biodiversity and sustainable use; equal distribution of the benefit to each country was resolved. India promulgated biodiversity act in 15 April 2002 and passed the biodiversity regulations in 2004 for formation of Biodiversity Management Committee (BMC) at the Gram Panchayat level to serve the purpose of PBR. Preparation of People's Biodiversity Registers is done through the Biodiversity Management Committee (BMC) in consultation with the local people, nati vaidyas and traditional knowledgeable persons. The register shall contain comprehensive information on the knowledge available on biological resources. The preparation of PBR is a huge task that involves students, teachers and people. The documentation of biodiversity prescription listed will go a long way in proper management, conservation and equitable share benefits to local body in addition to providing tool for sustainable use of biodiversity in perpetuity to the benefit of future

generation. PBR includes project methodology, study place, landscape, waterscape, people scape, life scape, traditional knowledge, developmental plans and management practices. More than 100 persons of different communities and traditional knowledgeable persons depending upon biodiversity, and natural resources directly and indirectly were personally interviewed and the traditional knowledge was documented. More than 300 plant species documented about 100 medicinal plants in wild locality and more than 100 animals known to the local people were documented with their local environmental status through field visits, personal contacts, photographs and videographs. Comprehensive measures were adopted with a view to PBR preparations for future work on biodiversity conservation sustainable use and equitable share benefits to the local body. PBR helps, protects the local bioresources and prevents from biosmuggling. The local people get right to equal share distribution from the benefits of new type of use of bioresources. **[PA-508]**

Keywords: CBD; PBR; BMC; traditional knowledge; medicinal plants and Gram Panchayat

Identification of the Morphologically Similar Medicinal Plant Genus—Tribulus DNA Barcodes

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DNA barcode tool is used to solve the morphologically similar plant species of Tribulus (T. terrestris, T. lanuginosis and T. subramanyamii) belonging to the family Zygophyllaceae used widely in ayurvedic preparations. These species were collected from the Western Ghats region of Tamil Nadu, South India. Genomic DNA was isolated from all the three plant species and PCR amplification was carried for the candidate barcode genes like internal transcribed spacer (ITS), atpB and rbcL. The amplicons were sequenced and the sequences were analysed and submitted in the GenBank database. The sequences were edited using Bioedit and multiple sequence analysis was performed using the Clustal X. Intraspecies variation and phylogenetic analysis were carried out using the software MEGA 4.0. Intraspecific divergence was determined based on the parameters such as intraspecific distance, overall mean, transition/transversion ratio and nucleotide diversity, and percentage of variation was also calculated. The analysis showed that the intraspecific distance between the three species for ITS was found to be 0.07, atpB –0.025 and rbcL –0.1. The percentage of variation is 0.07, 0.03 and 0.25 for the gene ITS, atpB and rbcL, respectively. The transition and transversion ratio is about 1.17 for ITS, 0.54 for atpB and 0.016 for rbcL. The Nucleotide diversity was nil for rbcL, but ITS and atpB showed 0.035 and –0.866, respectively. From the phylogenetic analysis, it was found that the species T. subramanyamii is closely related with T. terrestris and is not a natural hybrid of T. terrestris × T. lanuginosis, as reported by one group of taxonomists. Therefore, the gene ITS and atpB are proved to be a barcode gene for the plant species of genus Tribulus. Hence, in this study, DNA barcode is effectively used to solve the taxonomical dispute in this very important medicinal plant genus and also can be used to authenticate the Ayurvedic products. **[PA-565]**

Keywords: atpB; rbcL; Tribulus

In Vitro Studies for the Enhancement of Bioactive Compounds (Essential Oil) in Cymbopogon citratus DC (Stapf.)

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The use of plants for medicinal purposes and application of biotechnology for the production of pharmaceutically important compound are gaining momentum with the increase in demand for natural compounds of botanical origin to improve the health. Cymbopogon citratus DC (Stapf.), an aromatic grass belonging to Poaceae, commonly called 'lemongrass', contains major active compounds such as geranial (44.3%), neral (32.2%) and myrcene (15.2%) that are explored for their bioactivity. These compounds showed varied activities such as antioxidant, antiradical, antimicrobial and cytotoxicity. By using in vitro technology, variation in essential oil constituents could be generated and selection of superior clones can be made. The present study focuses on the production of in vitro plants by treatment with mutagens and acclimatization and establishment of regenerated plants in field conditions. The plants were analysed for variation in essential oil content and composition comparing them with natural plants. The oil from in vitro regenerated plants showed variation with respect to major constituents. There was also an increase in herbage yield and oil content in the clonal variants recovered. Further studies on screening of in vitro plants for improved oil content with desirable constituents, assessing the stability of improved variants at multi-locations in different agronomic conditions, are under progress. **[PA-566]**

Keywords: Cymbopogon citratus; in vitro culture; mutagens; essential oil; bioactive compounds

Use of Hairy Root Technology for Mass Production of Secondary Metabolites from Plants

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Hairy roots (HRs) are obtained by integration of a DNA segment (T-DNA) from the root-inducing (Ri) plasmid of Agrobacterium rhizogenes into the plant genome, which leads to the formation of adventitious roots at the site of transformation. Transformed 'hairy' root cultures are a biochemically and genetically stable model for assessing biosynthesis and scale-up of pharmacologically important natural products. The HR culture system is a potential approach for the production of pharmaceuticals, because it has many good traits, such as rapid growth rate, easy culture and genetic manipulation and, most importantly, an increased ability to synthesize useful metabolites that cannot be produced by unorganized cells even higher than plant roots. The greatest advantage of HRs is that they often exhibit about the same or greater biosynthetic capacity for secondary metabolite production when compared with their mother plants. The conditions of transformation (nature and age of the

explants, bacterial strain, bacterial density and the protocol of infection) deeply influence the frequency of the transformation events as well as the growth and productivity of the HRs. Optimizing the composition of nutrients for HR cultures is critical to gain a high production of secondary metabolites. Factors such as the carbon source and its concentration, the ionic concentration of the medium, the pH of the medium, light, phytohormones, elicitation by biotic or abiotic stress, temperature and inoculum are known to influence growth and secondary metabolism. The demonstration of induction and mass scale propagation of HR cultures in bioreactors for some of the plant metabolites important for traditional medicine will be presented. **[PA-574]**

Keywords: hairy root; secondary metabolite; A. rhizogenes; bioreactor

Effect of Chenopodium as an Anthelmentic in White Leghorn Breed of Poultry

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Chenopodium is a genus of about 150 species of perennial or annual herbaceous flowering plants known as the goosefoots, which occur almost anywhere in the world. The genus Dysphania is closely related and contains several species formerly placed in Chenopodium, such as epazote (D. ambrosioides). The genus Chenopodium contains several plants of minor to moderate importance as food crops as leaf vegetables—used like the closely related Spinach (Spinacia oleracea) and like similar plants called quelite in Mexico—and pseudocereals. In the Greek island of Crete, a species called krouvida or psarovlito has its tender shoots and leaves eaten by the locals boiled or cooked in steam. Chenopodium album is a fast-growing weedy annual plant in the genus Chenopodium that is extensively cultivated and consumed in Northern India as a food crop (known as 'Bathua' or 'Bathuwa'). It has been widely used as de-wormer (anthelmentic, i.e. medicine for control of endo-parasites). In the early 1990s, Chenopodium was one of the major anthelmentic used for the treatment of ascarids and hookworm in human beings. In Latin America, plants of Chenopodium are also used for the control of worm infestation in livestock and poultry. In this study for validation trial of Chenopodium as anthelmentic, the leaves of Chenopodium were used for the control of parasitic infestation in White Leghorn birds. These birds are maintained at livestock research Station (Poultry Unit) at Chak-ganjaria, Lucknow of UP Pt. Deen Dayal Upadhyaya Pashu-Chikitsa Vigyan Vishwavidyalya Evam Go-Anusandhan Sansthan, Mathura. In this study, 100 egg-laying birds after 24 weeks of age were randomly selected and divided in two equal groups. Fresh leaves of Chenopodium were taken, three times washed with fresh water and grinded smoothly for 10 min. This grinded material was mixed with 300 ml of water; after filtering this material, 20 ml of filtered juice was given to treated group, i.e. 50 birds of birds by oral route with the help of dropper and other group was used as control group. This process was carried regularly for continuously 1 week to the adult birds. After a gap of 1 week, faecal sample of both the groups were collected and examined in lab. The number of parasitic eggs was 68% less in Chenopodium-treated group when compared with control group. It is concluded that Chenopodium leaves are very economical and easily available source for the control of ascarids infection in poultry, without

showing any adverse effect on the birds. Hence, Chenopodium leaves can be used as anthelmentic to prevent worm infestation. **[PA-621]**

Keywords: Chenopodium leaves; ascarids; poultry

Biochemical Evaluation of Coleus forskohlii Brig. (Patharchur) Under Stress and Non-Stress Water Regime

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Coleus forskohlii Brig. (Phatarchur) that belongs to the family Lamiaceae is one of the significant medicinal herb having potential pharmaceutical properties. It is cultivated commercially for its roots that are used to prepare drugs for hypertension, glaucoma, congestive heart-failure and certain type of cancer. In this study, plant was subjected to different water stress conditions under controlled temperature in climate control greenhouses. The roots of the plant were investigated for its biochemical parameters, namely forskolin, chlorophyll, proline and potassium percentage at different water stress conditions. The results revealed that the forskolin and proline content were found to be maximum in the roots of plants with 80% moisture stress. Similarly, the potassium content was also influenced by the water stress treatment. However, the chlorophyll content was found to be maximum in plants with 20% moisture stress. Consequent upon the interpretation of findings, it can be concluded that the soil moisture stress has a significant influence on forskolin and proline content. Hence, the crop may be cultivated in a stress condition for maximum production of pharmaceutically important constituent, i.e. forskolin. **[PA-819]**

Keywords: biochemicals; soil-moisture stress; forskolin

Nutritional Potential of Oil-Seed Cakes on the Growth, Yield and Productivity of Trigonella foenum-graecum

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A field experiment was conducted during three winter seasons of 2006–2009 at the University Agricultural Research Farm of Aligarh Muslim University to assess the nutritional potential of various oil-seed cakes such as neem, castor, mustard, duan, lin seed and soybean on growth, yield and quality of Fenugreek Trigonella foenum-graecum, a known medicinal plant. The growth parameters such as height of plant, number of branches, per cent pollen fertility, green fruits/plant, green fruit yield/plant and chlorophyll content increased significantly in all the treatments when compared with the control due to their nutritional effects. Number of root-nodules was also found to be more in oil-seed cakes treated plants. The highest improvement in growth, yield and quality parameters were recorded in

those plants treated with neem cake and least in duan cake. The soil application resulted an improvement in plant nitrogen, phosphate and potash and residual available soil nitrogen. Thus, phosphate and potash influenced soil fertility. This type of experiment to increase the yield and quality may be useful to develop organically based products. **[PA-843]**

Keywords: oil-seed cakes; growth; yield; productivity; Trigonella foenum-graecum

Anti-diarrheal Activity, Toxicological Profile and Chemical Fingerprints of Three Indigenous Medicinal Plants

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The in vitro anti-diarrheal activity of three Indian medicinal plants, namely Aegle marmelos (L) Correa (fruit), Berberis aristata Linn (bark) and Holarrhena antidysenterica Wall (bark), was evaluated against four strains of Shigella—one of the important causative agents. The MIC and MBC of ethanolic and aqueous extracts of the three plants against all strains of Shigella were recorded between 125 and 600 µg/ml. The active principles of each medicinal plant, namely umbelliferone in Aegle marmelos, berberine in Berberis aristata and conessine in Holarrhena antidysenterica were characterized by different spectroscopic and chromatographic techniques. The Swiss albino mice were used for in vivo studies. The onset of castor oil-induced diarrhea was delayed, and number of diarrheal episodes was reduced by all the extracts in a dose-dependent manner. Similarly, the length of intestine traveled by the feed was also significantly reduced in the charcoal motility test by all the extracts. The oral acute toxicity profile (LD50) of alcoholic and aqueous extracts of Aegle marmelos, Berberis aristata and Holarrhena antidysenterica are >1250, 5000 and 1250 and 2500, 5000 and 2500 mg/kg body weight, respectively. **[PA-974]**

Keywords: antidiarrheal; Aegle marmelos; Berberis aristata; Holarrhena antidysenterica

Tissue Culture Studies of Glycyrrhiza glabra (Licorice): an Important Medicinal Plant

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Licorice (Glycyrrhiza glabra L.) is one of the most important drugs in traditional medicine. It is also useful as a sweetening and flavouring agent. The use of licorice due to many pharmacological properties is very high and the sources are limited. Attempts were made for callus culture and shoot tip culture of licorice. Combination of NAA and BAP was found to be most suitable for callus induction from leaf explant. Shoot tip cultured on

MS media supplemented with BAP resulted in multiple shoot production. Subculturing of one of these shoots on half strength M.S. media fortified with BAP resulted in formation of more than 10 shoots. Each shoot was cut and transplanted on a medium containing a combination of IAA and IBA for rooting and subsequently into a whole plant. **[PA-976]**

Keywords: Glycyrrhiza; shoot tip culture; subculture

Free Radical Scavenging Activity of Multivitamin Plant (Sauropus androgynus L. Merr)

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Sauropus androgynus L. Merr., also known as katuk, star goosebery, or sweet leaf, is a shrub grown in some tropical regions as a leaf vegetable which contains about 6–10% protein content. It is one of the most popular leaf vegetables in South Asia and Southeast Asia and is notable for high yields and palatability. In India, it is also known as multivitamin plant since it contains excellent sources of provitamin A, Crarotinoid, Vitamin B and C, protein and mineral. It has high nutritive value and contains phytochemicals which can act as antioxidarrt. The antioxidant activity of multi-solvent extracts of Sauropus androgynus obtained from ethanol, methanol and water was tested by measuring their ability to scavenge reactive hydroxyl radical through hydoxyl radical scavenging assay and 2,2-diphenyl-l-picryl hydrazyl (DppH) (a free radical scavenger) assay. In general, the ethanolic extracts were better free radical scavengers than the methanolic and aqueous extracts. Similar results were seen in the hydroxyl assay. Our findings also showed a linear relationship between the reciprocal of IC56 value and the total polyphenol content of Sauropus androgynus was observed in this study, indicating that increasing the polyphenol content strengths the antioxidant activity. The findings indicated promising antioxidant activity of crude extracts of the above plant and needs further exploration for their effective use in both modern and traditional system of medicines. **[PA-1138]**

Keywords: Sauropus androgynus; multivitamin plant; hydroxyl radical

Traditional Crop Protection Practices: an Appreciation to Healthy Environment (w.s.r. to Arunachal Pradesh)

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Present communication deals with the ethnic rites performed by the local people of different parts of the country to protect the crops from pests and diseases. It has been hypothesised that the sound frequency produced during the chanting of hymns by a forest-ethnic priest and the odour produced from the burning of particular plant or parts may be the reason to prevent the mating of insects/pests. Such traditional agricultural

practices, without the use of chemical pesticides, are in tune with eco-friendly biodiversity and provide better agricultural yields without poisoning or harming the environment or its components. **[PA-1184]**

Keywords: agricultural practices; ethnic rites; chemical pesticides

Biotechnological Applications for the Exploitation of Medicinal Plants

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Plants are living biological repositories and tremendous source for the discovery of new products of medicinal value for drug development. Today, several distinct chemicals derived from plants are important drugs currently used in one or more countries in the world. Many of the drugs sold today are simple synthetic modifications, biological transformation or copies of the naturally obtained substances. The evolving commercial importance of secondary metabolites has in recent years resulted in a great interest in secondary metabolism, particularly in the possibility of altering the production of bioactive plant metabolites by means of tissue culture technology. Different strategies, using an in vitro system, have been extensively studied to improve the production of plant chemicals. The focus of the present review is the application of tissue culture technology for the production of some important plant pharmaceuticals. In addition, we describe the results of in vitro cultures exploited for the production of some important secondary metabolites obtained in our laboratory. **[PA-1207]**

Keywords: secondary metabolites; plant tissue culture; pharmaceuticals

Effect of Kalyanaka Ghrita in Adhijonmada

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Adhijonmada is one of the stress-related disorders and it is the commonest disorder found in the present era. Routine life situations like occupational stress, studies and exams, financial crisis, family matters, deaths and separations are all contributing to the mental disorders. Hence, it was decided to study the topic Adhijonmada (stress-related disorders) and the effective intervention in Ayurvedic parlance. The objectives of this study are to evaluate the effect of Kalyāṇaka Ghrita and Plain Ghrita in the management of Adhijonmada and to compare the effect of Kalyāṇaka Ghrita and Plain Ghrita in the management of Adhijonmada. This is a comparative study comprising two groups: in each group 10 patients received the 20 ml kalayanaka Ghrita twice in a day for 2 months and 10 patients received 20 ml plain Ghrita twice in a day and were followed up for 4 months. In treatment group (KG group), 50% patients got moderate improvement and 50% patients got mild improvement. In control group (PG group), 40% patients got mild improvement and 60% patients remained unchanged. Kalayanaka group is more effective than plain Ghrita group. **[PA-88]**

Keywords: Adhijonmada; Kalyāṇaka Ghrita; Plain Ghrita

Combined Effect of Roots of Evolvulus alsinoides (Linn.) Linn. (Vishnukrantha) and Vernonia cineria (Linn.) Less. (Sahadevi) in Depression (Vishada)

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This study was to assess the efficacy of combination of the drugs Evolvulus alsinoides (Linn.) Linn. (Vishnukrantha) and Vernonia cinerea (Linn) Less. (Sahadevi), in a common mental disorder—Depression (Vishada). Clinical study was designed as a pre-test–post-test, a type of quasi-experimental design. A sample size of 22 patients were selected according to ICD-10 (International classification of disease, 10th revision), and drug was administered in powder form in the dose of 3 g twice daily, for 8 weeks. Before and after the drug administration, patients were assessed with Hamilton's depression rating scale and after the trial the results were compared. Total score of the Hamilton's depression scale

showed a significant reduction after the intervention ($P < 0.001$). The symptom scores of the rating scale, such as depressed mood, feeling of guilt, suicide, work and activities, psychomotor retardation, anxiety (psychological), anxiety (somatic), somatic symptoms (GIT), somatic symptoms (general), loss of weight, diurnal variation total score, depersonalization and de-realization, exhibited a highly significant reduction ($P < 0.001$). Insomnia early ($P < 0.01$), middle ($P < 0.05$) and late ($P < 0.01$) also reduced significantly. Combination of roots of Evolvulus alsinoides (Linn.) Linn. (Vishnukrantha) and Vernonia cineria (Linn.) Less.(Sahadevi) is effective in reducing depression (Vishada). **[PA-154]**

Keywords: Evolvulus alsinoides (Linn.) Linn. (Vishnukrantha); Vernonia cineria (Linn.) Less. (Sahadevi); Depression (Vishada); Hamilton's Depression Rating Scale

Role of Swetashankhapushpi (Clitoria ternatea) and Clinical Yoga Techniques in the Management of Generalized Anxiety Disorder

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The burden of modern lifestyle leads to many mental disabilities like generalized anxiety disorder. It is necessary to find safer and simple regimen for generalized anxiety disorder. Traditionally, Swetashankhapushpi (Clitoria ternatea) is being used in Kerala to treat mental disorders including generalized anxiety disorder (Chittodvega). Relaxation techniques are one of the tools to treat anxiety disorder. The present work was done to study the efficacy of Swetashankhapushpi and clinical yoga techniques on 30 patients of generalized anxiety disorder. These patients were randomly divided into three groups, A, B and C, each consisting of 10 patients. Patients of Group A were given Swetashankhapushpi root powder 2 g orally b.i.d. with milk as anupan for 1 month; patients of Group B were on clinical yoga techniques for 1 month; and patients of Group C were given both Swetashankhapushpi and clinical yoga techniques for a period of 1 month. Combination of both Swetashankhapushpi and clinical yoga techniques showed highly significant relief ($P < 0.001$) than single therapy, providing overall improvement in generalized anxiety disorder. **[PA-159]**

Keywords: Swetashankhapushpi (Clitoria ternatea); clinical yoga techniques; generalized anxiety disorder; Chittodvega

Establishment of Manas and Manovahi Srotuses w.s.r. to Mental Disorders and Management

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Till now there are no proper identification and establishment of Manas by Ayurvedist in present era. Ayurvedic text has been properly described but due to lack of command on Sanskrit language and untenable analysis with the superficial support of modern parameters, Ayurvedists are in dogma that brain is comparable with Manas. By this wrong recog-

nition, Manovahi Srotus which is important for development of mental disorders in phase wise is ignored. Due to improper identification of Manas and Manovahi srotuses, we are unable to cure mental disorders and as a result patients have to consume medicine till the appearance of either the side effects or death. We both, Ayurvedists and contemporary medical personnel, have to accept the view of Charak Samhita that any mental disorder including schizophrenia cannot appear directly but gradually originated from general physical problem as below, which is a pathogenesis of Unmada (Schizophrenia), but it is applicable for all types of mental disorders. Phase-wise development of mental disorders as per instruction of Charak Samhita as: (1) Alpasatwata (lesser will power), (2) Malah Pradushtah (variation in discharge of excretory system; it is observed that 100% cases of mental disorders have either constipation or incontinence of urine or stool), (3) Hridayam Pradushya (pathogenesis in heart, which is a place of Manas), (4) Manovikara (pathogenesis in Cardiac plexus, formed by Nerve fibers, which is attached and control the function of heart and as a result normal blood supplied to entire system of the body), and (5) pathogenesis in Manovahi srotuses (cavities specially ventricles of the brain, which produce cerebrospinal fluid by choroids plexus which is responsible for normal function of the brain and mental status). **[PA-486]**

Keywords: Alpasatwata; Malah Pradushtah; Hridayam Pradushya; Manovikara

Role of Snehana Modalities in Managament of Manasrog Chikitsa

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According to WHO, at present more than 450 million people are suffering from mental/behavioural disorders worldwide. Although modern science is trying to control this problem, in most of the cases, it has become unsuccessful. Under such circumstances, the whole world is watching Ayurveda, which, from its beginning, has an excellent answer to tackle this situation. Ayurveda is not only science of life, rather it is a way of life. An entire era of Ayurveda healing focuses on psychological health. The physical health and mental health are both interrelated and interdependent to each other. The psyche is affecting body and vice versa, and thus regulates entire body. To maintain mental health and to eradicate/control mental disease, first various Snehana modalities as per diseased conditions are seen to be very effective for pacifying the vitiated doshas at shareera–manas level, then accordingly Shodhana, Shamana, Rasayana and Satwavajaya chikitsa would be sequentially effective. Hence, to raise effectivity of t/t in manasrog at various levels, a genuine approach of Snehana modalities as per doshic predominance in the form of anthaparimarja- snehapana-nasya and baheparimarjana- moordhataila-abhyanga, etc. is very important. Also, we will get supportive base while assessing mode of action as per modern science. Hence, an attempt is made in this paper to explore the role of Snehana modalities in managing mental disorders. **[PA-1039]**

Keywords: Ayurveda; mental disorders; Snehana modalities; mode of action

Clinical Trial on the Role of Jyotismati in Borderline Mental Retarded Children

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Mental retardation refers to IQ level below 70 with deficit in adaptive behavior manifested before 18 years of age. The classification as per IQ level grades the patients from borderline up to profound type. Borderline mental retardation refers to IQ level within 68–83 points with features like learning difficulty, poor concentration and memory, and hyperactivity. In modern medicine, there is no treatment for this ailment whereas in Ayurveda we have a long list of single as well as compound medhya drugs. Among these Jyotismati was selected for trial, as previous pharmacological studies proved it to be CNS stimulant drug, which probably enhances the cellular metabolism and utilization of molecular oxygen. Indian child Intelligence Test was used for screening, which is the adaptation of Revised Amsterdam Kinder. Intelligence Test comprises 9 subsets to evaluate specific ability. The criteria of assessment include improvement in standard score of nine subsets in scale as well as gain in total IQ score statistically. The material and methods used and conclusion of the study will be discussed in detail during presentation. **[PA-1040]**

Keywords: mental retardation, borderline group, Jyotismati, clinical trial

A Randomized Controlled Trial with Samvahana on Sleep Deprivation

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Sleep deprivation can be considered as a malignancy in the literary means, as it affects the functioning of the brain to a greater extent functionally. A 2001 study at Chicago Medical Institute suggested that sleep deprivation may be linked to more serious diseases, such as heart disease and mental illnesses including psychosis and bipolar disorder. The link between sleep deprivation and psychosis was further documented in 2007 through a study at Harvard Medical School and the University of California at Berkeley. The study revealed, using MRI scans, that lack of sleep causes the brain to become incapable of putting an emotional event into the proper perspective and incapable of making a controlled, suitable response to the event. However, the importance of sleep is sustaining normal levels of cognitive skills, such as speech, memory and innovative and flexible thinking. In other words, sleep plays an important role in brain development. Research also shows that sleep-deprived individuals often have difficulty in responding to rapidly changing situations and making rational judgments. Ayurveda adds 'kalarahtri' to any type of sleep deprivation, and proper sleep is explained as 'yogabiyogino budhirnirmmalata tapasa yada'. In all the points, where Ayurveda sleep deprivation is mentioned, samvahana is added as a management. Samvahana is the smooth synchronized massage that stimulates tactile receptors and helps activation in the parasympathetic activity. Thus, it stimulates the production of serotonin that helps

the person to go to slow wave sleep (SWS) which leads to the production of delta waves and a state of complete sleep. So, here is an attempt to make bond between modern sleep deprivation and its correction in ayurvedic way through a non-invasive technique. **[PA-1068]**

Keywords: Samvahanam; slow wave sleep; sleep deprivation

Role of Rasnadi Taila on Manasa Bhava Causing Tension Headache

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Tension headache is a commonest psychosomatic disease affecting people worldwide. Tension headache is well explained in Ayurveda in terms of Vatika Shirashoola. It is one of the most common problem characterized by severe frontal, parietal and occipital headache, lack of concentration, loss of memory, etc. Mental factors such as bhaya (fear), shoka (grief), anxiety, trasa, etc. have a great role in causing this disease. Vata, the somatic dosha, is increased by these mental factors, which is the main cause of shoola (pain). Manas and Shareera are interrelated and interdependent to each other. Any changes in manas can affect the Shareera. In modern competitive world and stressful life, Manas is the first and foremost suffering entity because stress, strain, hurry, worry, tension, etc. form the orders of days. Hence, both Vata shamaka as well as medhya and rasayana drugs are useful to combat this disease. So Rasna, the best shoola shamaka (vedana sthapaka), rasayana, and medhya drugs are chosen for this study. As the route is nearer. Hence, Nasya is the best procedure to alleviate shira shoola. In this study, 30 patients are selected for Nasya group and compared with control group containing 31 patients. For Nasya group, Rasnadi taila was selected and for control group, Tila taila was selected. The effect of therapy was assessed on manasa bhava and psychological factor (brief Psychiatric Rating Scale) before and after the treatment. It was found that Rasnadi taila, Nasya therapy, was highly effective. **[PA-1172]**

Keywords: tension headache; manasa bhava; vata; Rasnadi taila nasya

A Randomized Control Trail of Brahmi Gritha in Apasmara with Reference to Generalized Tonic Clonic Seizures

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Apasmara/epilepsy is a devastating disease prevailing in 5–10 of 1000 people. This study aims to determine the effect of Brahmi gritha in Apasmara and to evaluate overall added effect to manas and shareera. A total of 30 patients aged between 16 and 60 years attending OPD of SDMCAH were randomly selected and divided into two groups: for shamana group with dose of 40 ml and control group (phenobarbitone: dose 60–120 mg) for a duration of 3 months with a follow-up of 3 months. Detailed history and mental status examination of each patient were done. Data were collected on the basis of structured proforma. Psychosomatic symptoms were collected from questioners. It is a comparative study with pre- and post-test design. The result was Brahmi gritha showed significant improvement in severity, frequency, duration of attack and pre- and post-ictal features along with improvement in higher mental functions. To conclude, Phenobarbitone was useful in reducing most of symptoms, but did not show better effect than shamana and brumhana group. Drug research in contemporary science introduced anti-epileptic drug, all remained anti-seizure rather than retrieving pathology. Ayurvedic medicines are psychoactive and psychonormalisor. Hence, they can give better life to epileptic patients. **[PA-1178]**

Keywords: Apasmara; epilepsy; Brahmi gritha; seizures

Comparative Evaluation of Medhya Effects of Ashvagandha and Shatavari in the Management of Generalized Anxiety Disorders

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Generalized anxiety disorder (GAD) is a prevalent and disabling disorder with 25% prevalence in primary care patients worldwide. Chittodwega, as per Ayurveda, is a condition which can be closely compared to the symptoms of GAD. The increasing side-effects of the currently available anxiolytic drugs and need to prove Medhya (cognitive enhancement) effects of Ashvagandha and Shatavari lead to the present study. The objectives are to study and compare the effects of Ashvagandha (Withania somnifera Dunal) and Shatavari (Asparagus racemosus Willd) in generalized anxiety disorders and study their adverse effects, side effects if any. A pilot, randomized, controlled, close-labelled, parallel design clinical trial was conducted in 40 patients (age group 25–65 years) of GAD diagnosed as per GCP guidelines and DSM-IV criteria. The parameters used were Hamilton Anxiety Rating scale (HARS), Ayurvedic Self-Assessment Scale (pioneer design done exclusively for the present study), NIMHANS proforma. Setting: Tarachand Charitable Hospital, Tilak Ayurveda Mahavidyalaya, Pune. A total of 40 patients diagnosed with mild-to-moderate symptoms of GAD as per HARS and Ayurvedic Self-Assessment Scale participated in this study. Interventions are three tablets (500 mg) each twice a day for a period of 2 months (dose finalised after dose variation study in all the groups). Follow-up after 30 days. The main outcome measures are as follows: (1) primary end point—reduction in the gradation of the symptoms of GAD as per the Hamilton Anxiety Rating Scale and Ayurvedic Self-Assessment Scale. (2) secondary end point—overall improvement in the symptoms of GAD, improvement in general physical and mental health and improvement in overall health sta-

tus. Overall results suggest that Shatavari is comparable to Ashvagandha which is a known anxiolytic and has also proven to have Medhya (cognitive enhancer) effect. (1) Shatavari proved as drug of choice in symptoms such as somatomuscular, autonomic, gastrointestinal, somatosensory as per HARS and Abhikshnam Dhyayati, Durmanaha, Chittavibhrama, etc. as per Ayurvedic scale. (2) Ashvagandha proved as drug of choice in symptoms such as Insomnia, respiratory symptoms, insomnia, etc. as per HARS and Manasantapa, Durbalata, etc. as per Ayurvedic scale. (3) Combination group proved as drug of choice in intellectual, depressed mood, etc. as per HARS and Smrutisamplava, Nidranasha, etc. as per Ayurvedic scale. To conclude, Shatavari proved to be at par with Ashvagandha which is a known anxiolytic in alleviating the symptoms of anxiety without any adverse effects. Both the drugs can act as preventive medicine by boosting the physical, mental and emotional immune status of the individual and also enhance the cognitive functions thus making the individual to adapt to the work stress in modern scenario. **[PA-3108]**

Keywords: generalized anxiety disorders (GAD); The Hamilton Anxiety Rating scale (HARS); Diagnostic and Statistical Manual of Mental Disorders (DSM-IV criteria); Ayurvedic Self-Assessment Scale; Medhya; Chittodwega

Mind-Body Medicine in Ayurveda: Review of Controlled Clinical Research on Transcendental Meditation and Cardiovascular Disease

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Classical Ayurvedic texts elucidate the role of the mind or psychosocial factors in the onset and progression of disease, including cardiovascular disease (CVD) and recommend meditation in the prevention and treatment of disease. The Transcendental Meditation (TM) technique has been revived from the ancient Vedic tradition by Maharishi Mahesh Yogi and is practised widely in the West and worldwide for health promotion and disease prevention. A series of controlled clinical trials have evaluated the effects of Transcendental Meditation on CVD risk factors, morbidity and mortality. Meta-analyses have shown that Transcendental Meditation programme is distinctively effective in lowering blood pressure, psychosocial stress, smoking and alcohol abuse. Randomized trials have reported reductions in carotid atherosclerosis, left ventricular hypertrophy and CVD mortality. Recently, a long-term trial found a 47% reduction in the risk of myocardial infarction, stroke and death in Transcendental Meditation practitioners compared to controls. Economic studies show the cost utility of these approaches. We conclude that mind-body intervention with the Transcendental Meditation programme may be useful in primary and secondary prevention of cardiovascular disease. **[PA-3108]**

Keywords: transcendental meditation, cardiovascular disease

Rhodiola Rosea: an Alternative Treatment of Mild Cognitive Impairment

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Rhodiola Rosea is a herbal alternative treatment for mild cognitive impairment. Its extracts have complex effects on brain function (neurotransmitter levels, central nervous system activity) and cardiovascular system.The aim of this study is to determine, comparatively, the outcome of the patients diagnosed with mild cognitive impairment treated with nootropics (Piracetamum) and alternative herbal agents (100 mg Rhodiola Rosea). The study comprises 40 elderly subjects divided in two groups: one receiving nootropics (A) and the other rhodiola rosea (B). The patients were evaluated with MMSE (Mini Mental State Evaluation) at the inclusion into the study, after 1 week and after 6 months of treatment. The average of MMSE at the inclusion was 23.5 points for group A and 23.9 points for group B. After 1 week of treatment, MMSE improved with 2.6 points for group A and 1.8 points for group B. After 6 months of treatment the improvement was 4 points for group A and 3.8 points for group B. The short-time prognosis is better for nootropics and the long-time prognosis is approximately equal.

Keywords: mild cognitive impairment, Rhodiola Rosea, nootropics. prognostic

Need of Achara Rasayana in Context of Senile Psychosis: a Critical Study

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Ageing is continuous biological process that begins at birth. It is inevitable and irreversible but not a disease. Acharya Charaka classified the vaya into three parts namely bala, madhya, and jirna. He further told the characteristics of the jirna vaya (old age). In the old age (from 60 to 100 years) there is diminution of dhatus, strength of sense, energy, valor, power of understanding, retention, memorizing, speech and analyzing facts along with the dominancy of vata. Acharya Charaka's advocacy in the use of Rasyana to strengthen the dhatu and subsequently to linger the onset of jara is considerable. That is why Achara Rasayana is being taken as a main tool to prevent the propone onset of jara and its related psychological disorder. Achara Rasayana is a mode of living behavior and conduct. Achara Rasayana is the mental hygiene envisages a code to lead stress free life which in turn fetches longevity. A renowned gerontologist Schaie also found that to stay mentally sharp in old age, the following conditions are helpful: (1) Remain healthy. (2) Have a favorable environment in family. (3) One should be engaged in intellectually stimulating activities like reading and cultural events. (4) Have a flexible personality. (5) Be helpful to others as far as possible. The conclusion is that Schaie view has much affinity to Achara Rasayana or in other words the concept of Achara Rasayana is much better to linger the early onset of jara and its related psychological disorder. The paper attempts to study the effect of Achara Rasayana to linger the onset of jara and prevent the psychological disorder to be developed. **[PA-129]**

Keywords: Achara Rasayana; jara

Efficacy of Ayurvedic Treatment in Chikungunia and Related Osteoarticular and Dermatological Sequelae

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A clinical study was conducted in 164 patients to assess the efficacy of Ayurvedic treatment in Chikungunia-related acute and chronic conditions. In this study, 40 patients presented with acute symptoms like fever, loss of appetite, backache and severe arthralgia, significantly reduced within 2 weeks by Amapachana, Jwarahara drugs with antibacterial and antiviral properties, Mootrala and Soolahara drugs. Sixty-eight patients who underwent treatment for post-viral manifestations (1 month after infection) like joint pain/oedema,

fatigue, skin rash, stomatitis and headache responded well by 45 days with the above-mentioned treatment along with Raktapittasodhaka and Kandookhna drugs. Fifty-six patients with chronic manifestations (6 months to 1 year after infection) like persistent joint pain and stiffness, insomnia, pruritus and purpura underwent 3 months treatment with considerable improvement using the above-mentioned drugs along with Vicharanasnehapanam. During the follow-up period of 1 year, no recurrence in symptoms or signs was noticed except in those who had history of joint diseases (3%). The results suggest that early interventions with the antiviral and immunomodulatory effects of Ayurvedic medicines may help to control infection and unwanted immune responses and thus prevent osteoarticular sequelae. The classical management of twakvikaras with Raktapittakasodhaka drugs is effective in dermatological sequelae of Chikungunia also. **[PA-457]**

Keywords: Chikungunya; Ayurvedic treatment; osteoarticular sequelae; dermatological sequelae

Traditional Alkalis (KSHAR) w.s.r. to Assam and Arunachal Pradesh

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In Assam, the edible Kshar (local name KHAR) prepared from the ash of the burnt trunk of banana (preferably BHIM-KOL variety) is a favorite food ingredient. The APATANI tribe of ZIRO valley in Arunachal Pradesh prepares a substitute for common salt, known as TAPYO from one or two or different combinations of 56 grasses, ferns, shrubs, etc. This TAPYO, taken either along with food or with fermented rice/millet beverage, keeps the people free from goiter (though the surrounding areas are under goiter-belt). Acidity trouble is reported to be very rare. The preparation is much similar to the alkali preparation described in CHARAK-SAMHITA. A thorough research work on this pearl of ancient wisdom of the NE region of Bharat may lead us towards less hunger and less disease future. **[PA-509]**

Keywords: Kshar; acidity; TAPYO

Chikungunya and its Management

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The effect of Ayurvedic Jwara Chikitsa was studied clinically on more than 300 subjects suffering from chikungunya recently in Hubli Ayurveda Mahavidyalaya. The treatment adopted was found to be highly effective in combating the disease. Most of the chikungunya patients received Mahasudarshana Kadha, Godanti Bhasma, Vatagajankush Rasa, Agnitunti Vati, Tab. Trishun (Zandu). Laghu, Ushna Ahara, Yavagu Pana and Ushnodaka are advised to the patients. Most of the patients showed improvement 24 h after the administration of

drugs. Temperature came to normal in 36 h. Pain and tenderness in joints came down gradually in 48 h. Even though the morbidity of the disease subsides drastically, the arthritis and the joint stiffness continue to bother them to some extent for 4–8 weeks and need palliative treatment for 2 months. Chikungunya being a viral disease lacks effective treatment in conventional system of medicine. The Ayurvedic approach towards it is as Sannipataja Jwara and Amavata. The treatment principle of Jwaraghna, Amavatahara, Deepana, Pachana and Shodhana works effectively in relieving clinical symptoms. **[PA-675]**

Keywords: chikungunya; Sannipataja Jwara; Amavata

Awareness and Knowledge of Ayurvedic Recommendations on Diet (Aahar) and Lifestyle (Vihar) Among Teachers and Students of Punjab University

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Main objective of Ayurveda is to achieve optimal health and well-being through a comprehensive approach that addresses mind, body, behavior and environment. Daily as well as seasonal, dietary and lifestyle recommendations have been described to promote health. Harmful diets and activities have been identified to prevent diseases. The main purpose of this paper is to assess awareness and knowledge of dietary and life style interventions prescribed by Ayurveda among teachers and students of Punjab University. A cross-sectional study has been conducted using questionnaire containing 30 questions in the main campus of the university. A total of 150 respondents have been surveyed. Statistical analysis was done using the SPSS. A significant number of respondents assumed the mentioned practices as true but few were aware that these are recommended by Ayurveda. Significant differences were seen in knowledge and awareness level of teachers and students. There is deficient awareness about Ayurvedic prescriptions on diet and lifestyle. There is a strong need to promote Ayurveda as a system of medicine as well as health. **[PA-788]**

Keywords: awareness; knowledge; SPSS

Iron Deficiency Anaemia among Indian Rural Population and its Ayurvedic Management

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Presently India is leading in the world in the context of iron deficiency anaemia because more than 50% of its population is suffering from it. This silent killer is very common among rural population due to poor socioeconomic status, inadequate dietary habits,

worms infestation and GI bleeding. After ruling out the cause of anaemia, swarnamakshika bhasma prepared by two different shodhana and marana processes were administered in the dose of 125–250 mg BD in two groups of 20 patients each, randomly selected from the OPD/IPD of GACH, Patna. Symptomatically and pathologically results were quite satisfying even in children, pregnant and lactating women and in elderly debilitated people without any significant side effects. Details of data and results will be discussed at the time of presentation. **[PA-879]**

Keywords: anaemia; swarnamakshika bhasma

Role of Herbal Formulation 'Pratishayahar Kashaya' (Anubhut) in the Prevention of Viral Infection on the Background of H1N1 or 'Swine Flu'

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In Maharashtra particularly in Pune and nearby district 'the latest public health emergency of international concern' is 'swine flu'. The main aim of this paper is to study the effect of herbal formulation in the prevention of viral infection on the background of swine flu. Two groups of people (1) those who have signs and symptoms of flu but not diagnosed as 'swine flu' due to overload of patients at diagnostic/screening centers and (2) those who do not have signs and symptoms of flu but are in contact with the people suffering from flu are selected for the study. A person having symptoms like runny nose, coughing, high grade fever, sore throat and vomiting are considered as a flu patient. Drug and Dosage is given as follows: (A) Herbal formulation: 'Pratishayahar Kashaya' (Anubhut) contains (1) Trikatu, (2) Vacha, (3) Dalchini, (4) Haridra, (5) Gokshur, (6) Bhumi Aamalki, (7) Ashwagandha, (8) Guduchi and (9) Vasa. Bharad Churnas of each (40 mesh powder) in a particular proportion mixed together and kept air tight. (10) Tulsi 8–10 leaves and (11) Ardrakam small 1/4 inch piece are advised to add at the time of preparing decoction. 200 ml of water was added to 5 g of powder of formula along with Tulsi and Ardrakam, heated to prepare decoction and reduced to 1/4, i.e. approximately 50 ml, filtered and advised to take lukewarm. Decoction is prepared freshly every time, 50 ml for adult use and 15–25 ml for pediatric use advised to take three times a day for 15 days. (B) Laxmivilas Rasa: 60 mg two times a day for pediatric use and 125 mg three times a day for adult use. Group 1 was treated with Laxmivilas Rasa and herbal decoction, while Group 2 was treated with only herbal decoction. Totally 1650 patients were treated during the period of 2 months. The results are very encouraging and highly significant on the statistical ground. The study concludes that Ayurvedic herbal formulation 'Pratishayahar Kashaya' (Anubhut) is very effective in preventing viral infection. **[PA-1148]**

Keywords: Pratishayahar Kashaya; swine flu

Need for a Tribal Health Policy-based on Ayurveda

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India has progressed in various fields but levels of malnourishment are not showing desired reduction results. As a result, the indicators that are directly linked to this, such as infant mortality rate, maternal mortality rate and under 5 mortality rate, are higher than in any other developing countries. Our country does not have a universal language, universal food habits and even the conditions of living differ in different areas. The worst sufferers are the tribal people living in remote areas in the forest. With rising malnourishment-related deaths in tribal children, there is a need to rethink about the issues in formulation of the health policy of our country. Our health policy supports the western-oriented medicines, whereas the tribal people often rely on rich flora and fauna around them for health-related disorders. These medicines have their base in Ayurveda. Today, the need to look at potentials of Ayurveda in health care needs of tribal population is very urgent and serious. With cutting of trees for timber after the tree has attained maturity, and plantation of teak, bamboo and wood yielding trees, today, forests have lost lot of climbers, tubers and orchids of high medicinal value. There has to be an inter-sectoral coordination in framing 'The forest and health policy for tribal population'. **[PA-1197]**

Keywords: health policy, tribal population; forests

Need of Achara Rasayana in Context of Senile Psychosis: a Critical Study

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Ageing is continuous biological process that begins at birth. It is inevitable and irreversible but not a disease. Acharya Charaka classified the vaya into three parts namely bala, madhya, and jirna. He further told the characteristics of the jirna vaya (old age). In the old age (from 60 to100 years) there is diminution of dhatus, strength of sense, energy, valor, power of understanding, retention, memorizing, speech and analyzing facts along with the dominance of vata. Acharya Charaka's advocacy in the use of Rasyana to strengthen the dhatu and subsequently to linger the onset of jara is considerable. That is why Achara Rasayana is being taken as a main tool to prevent the propone onset of jara and its related psychological disorder. Achara Rasayana is a mode of living behavior and conduct. Achara Rasayana is the mental hygiene envisages a code to lead stress free life which in turn fetches longevity. A renowned gerontologist Schaie also found that to stay mentally sharp in old age, the following conditions are helpful: (1) Remain healthy. (2) Have a favorable environment in family. (3) One should be engaged in intellectually stimulating activities like reading and cultural events. (4) Have a flexible personality. (5) Be helpful to others as far as possible. The conclusion is that Schaie view has much affinity to Achara Rasayana or in other words the concept of Achara Rasayana is much better to linger the early onset of jara and its related psychological disorder. The paper attempts to study the effect of Achara Rasayana to linger the onset of jara and prevent the psychological disorder to be developed. **[PA-129]**

Keywords: Achara Rasayana; jara

Public Health Initiation: Implementation of Ayurveda w.s.r. to Control Malaria in Odisha State

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Tapobhoomi Trust is implementing Public Health Project on malaria control through effective application of AYUSH-64 and Sanjivani Vati tablets with the support of Department of AYUSH, Government of India, in Boudh and Malkangiri Districts from March 2008 till date. Regular patient check-up and Ayurveda treatment, night blood collection, disease surveillance, village health committees, patient orientation, preventive measures like

water and sanitation were conducted in Malaria-prone villages of Mathili and Khairput Block of Malkangiri district and Dahya, Sagada and Gundulia GPs of Boudh District by Ayurved physicians and laboratory technicians with the assistance of local health practitioners of the organization. Under this Public Health Project at Boudh district, 85 falciparum Malaria cases were identified, 58 were treated through AYUSH-64 and out of them 48 patients were fully cured. All total 588 Malaria cases were treated and 410 were fully cured in Boudh district. Out of that 588, 383 patients were accepted under blood tests and rest by clinical investigation. Technical supervision has been done by National Research Institute of Ayurvedic Drug Development (NRIADD), Department of AYUSH, Ministry of Health and Family Welfare, Government of India, Bhubaneswar periodically. This field trail covered 14213 populations of 2824 households of 57 villages of Boudh District. The work has been carried out through trained community volunteers, ASHA, Anganardi Workers, Ward Members and Village Health Committee Members. [PA-475]

Keywords: Tapobhumi; AYUSH-64; Sanjivani Vati

Efficacy of Ayurvedic Treatment in Chikungunia and Related Osteoarticular and Dermatological Sequelae

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A clinical study was conducted in 164 patients to assess the efficacy of Ayurvedic treatment in Chikungunia-related acute and chronic conditions. In this study, 40 patients presented with acute symptoms like fever, loss of appetite, backache and severe arthralgia, significantly reduced within 2 weeks by Amapachana, Jwarahara drugs with antibacterial and antiviral properties, Mootrala and Soolahara drugs. Sixty-eight patients who underwent treatment for post-viral manifestations (1 month after infection) like joint pain/oedema, fatigue, skin rash, stomatitis and headache responded well by 45 days with the above-mentioned treatment along with Raktapittasodhaka and Kandookhna drugs. Fifty-six patients with chronic manifestations (6 months to 1 year after infection) like persistent joint pain and stiffness, insomnia, pruritus and purpura underwent 3 months treatment with considerable improvement using the above-mentioned drugs along with Vicharanasnehapanam. During the follow-up period of 1 year, no recurrence in symptoms or signs was noticed except in those who had history of joint diseases (3%). The results suggest that early interventions with the antiviral and immunomodulatory effects of Ayurvedic medicines may help to control infection and unwanted immune responses and thus prevent osteoarticular sequelae. The classical management of twakvikaras with Raktapittakasodhaka drugs is effective in dermatological sequelae of Chikungunia also. **[PA-457]**

Keywords: Chikungunya; Ayurvedic treatment; osteoarticular sequelae; dermatological sequelae

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Keywords: awareness; knowledge; SPSS

Critical Analysis of Current Wrong Dietary Fashion w.s.r. to Ayurvedic Classics

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Today's society is quiet health conscious and really tries to follow the rules and regulations suggested by doctor/dietitian for the same. So many types of dietary trends even suggested by the doctors are incorrect and being badly followed as a fashion. For example, overuse of salads, raw vegetables, little or no use of ghee/oil in diet, over consumption of water, sprouts in excess, reheating the food all are strongly criticized in Ayurveda. The diet cannot be generalized for all. Ayurveda suggests diet according to prakriti, agni, koshtha, season, disease and many more. The reason behind the criticism and the correct manner to take such things will be explained in full paper. A short prakriti agni koshtha analysis pro forma will be given and proper dietary pattern will be suggested to the audience. **[PA-797]**

Keywords: dietary; Ayurveda; season

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Keywords: Pratishayahar Kashaya; swine flu

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health policy of our country. Our health policy supports the western-oriented medicines, whereas the tribal people often rely on rich flora and fauna around them for health-related disorders. These medicines have their base in Ayurveda. Today, the need to look at potentials of Ayurveda in health care needs of tribal population is very urgent and serious. With cutting of trees for timber after the tree has attained maturity, and plantation of teak, bamboo and wood yielding trees, today, forests have lost lot of climbers, tubers and orchids of high medicinal value. There has to be an inter-sectoral coordination in framing 'The forest and health policy for tribal population'. **[PA-1197]**

Keywords: health policy, tribal population; forests

Clinical Study of Alcoholic Cirrhosis with Integrated Approach of Biomedicine and Ayurveda Using Translation Research Approach

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Alcoholic cirrhosis of liver is a major therapeutic challenge requiring development of safe, effective and accessible treatment. Taking leads from contemporary pathophysiological information and molecular pathology in alcoholic cirrhosis and developments in medicinal plant literature, 11 cases of established alcoholic cirrhosis of liver mostly with complications were managed with medicinal plant preparations, classical Ayurvedic medicines and strict dietary recommendations. Biomedicines and procedures were used only when indicated. The follow-up from 10 months to 8 years revealed significant improvement in terms of quality of life, survival and cost effectiveness. This study reveals immense potentials of Ayurveda in improving management of alcoholic liver diseases and likely to provide new insights in the management of alcoholic liver diseases. **[PA-148]**

Keywords: cirrhosis of liver; clinical trial in Ayurveda; medicinal plant clinical study; translational research; evidence-based Ayurveda

The Role of Panchamula Taila Nasya in the Management of Manyastambha

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Manyastambha (Cervical Spondylosis) is a common disease in today's world. In the study performed at L K Ayurved Hospital, Yavatmal, patients of Manyastambha were divided into two groups for comparison: 30 patients in Group A were treated by Panchamula Taila Nasya (8 drops in each nostril), followed by vata shaman diet regime and vihar and for Group B patients, Nimesulide (100 mg BD) was given for 15 days. Statistically both groups come out to be equally effective but considering the side effects in Group B, the therapeutic efficacy of the panchamula taila nasya in the management of Manyastambha is significant. **[PA-244]**

Keywords: Manyastambha (Cervical Spondylosis); Panchamula Taila Nasya

Effects of Art on Patients with Alcoholism and Drug Abuse

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Alcohol abuse is emerging as a major public health problem in India, with more than half of all alcohol drinkers falling into the criteria for hazardous drinking. Alcohol abuse can cause signs and symptoms of depression, anxiety, psychosis and antisocial behavior, both during intoxication and withdrawal. Participating in the creative art therapy groups enhances patients' quality-of-life. From time immemorial fine art, aesthetics and colors have been a part of Ayurveda. Each spinal chakra in Ayurveda is associated with specific color. Principles of art therapy are on the lines of Manas Roga Chikitsa. This paper explores whether creative art sessions could be beneficial when used in addition to medication for patients with severe alcohol dependence and drug abuse. We performed an experimental, short-term pilot study evaluating the efficacy of creative art sessions at Astha Deaddiction Centre, Moshi (India). Quality-of-Life Scale (QOL) was administered as pre- and post-test assessments. An independent sample t-test is performed to determine whether the Art Therapy Program is effective. This study confirms significant improvement in the QOL of participants. A larger subject population may provide more statistical power to discern the benefits of various art therapies, during deaddiction treatment. **[PA-299]**

Keywords: art therapy; alcoholism and drug abuse; quality-of-life scale; independent sample t-test

Clinical Improvement, Viral Load Reduction and CD4 Count Improvement in HIV Positive Patients with Ayurvedic Drugs: a Non-funded, Observational Study

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Diseases mentioned in Ayurvedic texts, which were having features similar to AIDS, were sorted out. They included Dhatukshay janya Raj Yakshma, Urah Kshat/Kshat ksheerna, Kshayaj Atisar and fever of various types. Accordingly, a comprehensive Ayurvedic regimen (named Vishnuteerth regimen) was formulated and evaluated. A total of 38 patients (n = 38) participated in this study, and Vishnuteerth regimen was administered to all. Clinical outcome was assessed and whenever financially feasible viral load and CD4 counts were also investigated. Age ranged from 4 to 48 years, and men:women ratio being 2.5:1. Results reveal that at the end of the study, of the 38 patients included, 13 lost to follow-up, 4 died, 1 worsened after improvement and 20 patients were doing well. Viral load decreased significantly and CD4 count improved. Clinically most of the patients showed marked improvement in the form of increasing weight, improved appetite and absence of fever. In many patients, improvement was observed within first week. The treatment was well tolerated and devoid of serious side effects. No patient withdrew due to treatment-related side effects. Immune reconstitution syndrome-like side effect was also not seen. To conclude, Vishnuteerth regimen may be an effective and safe treatment for HIV and AIDS. **[PA-460]**

Keywords: Vishnuteerth; HIV; AIDS

Clinical Assessment of AVBJ Churn with Yoga and Meditation on Vyanabala Vaisamya (Essential Hypertension)

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The incidence of hypertension is increasing due to global changing scenario and increased life struggle. Hypertension is more common in men than in women up to the age of 50 years, after which it is more common in women. In India, the reported prevalence rate varies widely from 10% to 15%. Hypertension is one of the several risk factors for cardiovascular diseases. Hypertension, as a pathological entity, is not described in Ayurveda, but depending on the changes involved, it appears to be the derangement of Vyana vata, and hence the name given as Vyanabala Vaishamya. The equal combination of Arjuna, Vacha, Brahmi and Jathamamsi churnas, 3 g thrice daily along with water was administered for 3 months on well-established 31 patients at RRI (Ay), Hospital, Vijayawada, and also advised yoga and meditation during the course of treatment. The overall effect of therapy shows that of the 31 cases, 12 got good response, 5 got fair response, 6 got poor response, 2 cases not responded to the therapy and 6 cases was LAMA. Statistically highly significant result ($P < 0.001$) was found in all the parameters. The details will be discussed in full text of the paper. **[PA-495]**

Keywords: Vyanabala vaisamya; Sanjnasthapana; anxiolitic; Nidrajanan; Medhya

A Scale for Quantifying Unmaada Symptoms

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This is a report on the development and initial standardization of a scale to measure the unmāda (psychosis) symptoms in patients with non-affective psychosis. Āyurveda unmāda scale (AUS) consisting of 68 items was developed based on the translation of the śloka's (verses in Samskrita) describing unmāda and with the opinion from the experts viz. 15 Āyurveda scholars and five each of psychologists and psychiatrists. The study was conducted at a private psychiatric nursing home in Bangalore city. The scale was administered to 44 patients with non-affective psychotic disorders. Āyurveda unmāda scale is associated with excellent internal consistency (Cronbach's $\alpha = 0.8862$, split-half reliability $r = 0.7876$) and inter-rater reliability (kappa values ranged from 0.828 to 1.000). To conclude,

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the symptoms of unmāda can be measured reliably by this scale in patients with non-affective psychosis. **[PA-502]**

Keywords: unmäda; psychosis; vibhrama; dimensions

Ayurveda Research: Ontological Challenges

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Collaborative research involving Ayurveda and the current sciences is undoubtedly an imperative and is emerging as an exciting horizon, particularly in basic sciences. Some work in this direction is already going, on and outcomes are awaited with bated breath. Further intense and sustained collaborative research needs to overcome a subtle and fundamental challenge—the ontological divide between Ayurveda and all the current sciences. Ontology, fundamentally, means existence; elaborated, ontology is a particular perspective of an object of existence and the vocabulary developed to share that perspective. The same object of existence is susceptible to several ontologies. Ayurveda and modern biomedical as well as other sciences belong to different ontologies, and as such, collaborative research cannot be carried out at required levels until a mutually acceptable vocabulary is developed. **[PA-506]**

Keywords: ontology; pre- and post-Galilean; biomedicine; Ayurveda; post-modern

Evaluation of the Role of Shodhana Therapy Along with Rasayana Therapy and the Biophysical Changes Produced in the Normal Subjects: a Pilot Study

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The present study was conducted on 70 apparently normal subjects to evaluate the role of Shodhana and Rasayana therapies on various scientific parameters. Subjects were divided into two groups, and Shodhana Karma was administered in the form of Vamana Karma and Virechana Karma for group 1. Thereafter, Amalakai Rasayana was given to the cleansed (Shodhita) subjects. Group 2 was given only Amalakai Rasayana without cleansing the subjects. It was observed that there were highly significant changes in subjective and objective parameters of group 1 which was treated with Shodhana followed by Rasayana, whereas significant changes were observed in group 2 also which was treated with only Amalakai Rasayana. It was also observed that the growing feeling of well being was markedly improved in the subjects of group 1. Considering various factors, it can be concluded that Shodhana therapy and Rasayana therapy can produce significant changes on biophysical factors without producing any toxic or harmful effects to the body. **[PA-588]**

Keywords: Amalaki Rasayana; Shodhana therapy; Vamana Karma; Virechana Karma

Study of Serum Cholesterol, Lipid Profile and Thyroid Concentration in Medorog

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A study was conducted to determine the effect of oral mode of drug administration in the form of lekhniya mahakashaya ghanwati (LMG) and niruha-vasti on serum cholesterol, lipid, thyroid, skin fold measurement and BMI of obese patients. A total of 60 non-diabetic, non-hypertensive human subjects of either sex (men: 16; women: 44; median age: 35 years) participated in this study. They were selected randomly on the basis of body mass index (BMI), waist hip ratio, skin fold measurement and eight charkokt clinical symptoms such as aayusohrasah, javoprodhah, krechhvyavayta, daurbalyam, daurgandhyam, swedabadaha, kshudatimatra and pipasaatiyoga. Each group was further divided into three subgroups; A (oral), B (Niruh vasti) and C (Placebo) according to the mode of drug administration. LMG was prepared using 10 drugs (Cyperus rotundus, Picrorhiza kurroa, Saussurea lappa, Curcuma longa, Berberis aristata, Acorus calamus, Aconitum Heterophyllum, Plumbago zeylanica, Holoptelea integrifolia, Iris ensata). Various statistical techniques such as descriptive statistics, ANOVA, Duncan's multiple-range test and t-test were used to investigate the data. Results showed a statistically significant ($P < 0.01$) effect of mode of drug administration on all variables excluding thyroid concentration. Group 'B' patients exhibited significantly earlier recovery of normal serum cholesterol, lipid, skin fold and BMI values as compared to that of groups A and C. In conclusion, the above combinations of drugs were observed to be highly effective in the treatment of obesity, and results vary according to its mode of interventions. Further extensive investigation is mandatory to have a deeper insight of this phenomenon. **[PA-616]**

Keywords: obesity; lekhniya mahakashaya dhanwati; oral treatment; niruh vasti treatment

Clinical Outcome of an Ayurvedic Therapeutic Emesis (Vamana) in Obesity

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Obesity and overweight represent a complex relationship between genetic, psychological, metabolic, lifestyle and socioeconomic cultural factors. It is the disease of fat metabolism known as Medoroga in Ayurveda. Kapha, one of the three important bioenergetic humors, is responsible for initiating this disease process as well as clinical presentations. Ayurvedic line of treatment in such conditions is administration of therapeutic emesis known as Vamana, which is one of the five methods of detoxification therapies. In this open clinical

study, 30 patients diagnosed with overweight/obesity of either sex were selected. Exclusion criteria included the endocrinal abnormality. Selected participants were subjected to Vamana conducted between 5 and 7 days including preparatory and postoperative care period. Induction of emesis was by the administration of a preparation made out of the fruits of Randia dumetorum Lam (Madanaphala). The results were analysed with paired 't' test on the weight, BMI, lipid levels and clinical measurements. Results show that after emesis (Vamana), significant reduction in body weight (3.96%; $P < 0.001$) and BMI (4.12%; $P < 0.001$) was seen. Even the clinical parameters such as waist and hip circumference and waist–hip ratio had statistically significant reduction. Reduction in cholesterol (21.2%), triglycerides (8%), LDL (15%) and VLDL (12.22%) was significant ($P < 0.001$), and increase in HDL (8.08%; $P < 0.002$) was observed. Reduction in chest, mid-thigh and mid-arm circumference, biceps, triceps, supra-iliacal and sub-scapular skin fold thickness was non-significant ($P > 0.002$). To conclude, Vamana therapy had a beneficial effect on obesity with regards to reduction in weight and lipid levels. **[PA-664]**

Keywords: vamana; emesis; medoroga; overweight; obesity

Cost-effective and Evidence-based Ayurveda: a Working Model

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The objectives of this study are as follows: cost-effective and effective Ayurveda 'unto the last'; evidence-based Ayurveda for propagation among physicians and public; formulating a basic protocol to manage IVDP; AYUSH department intervention in health sector; using 'people's campaign' funds. A poor patient with IVDP cannot afford to Ayurveda or modern system of medicine, in cost-efficacy and efficacy. Ayurveda can manage IVDP very effectively and cost-effectively, with evidence. A 3-week inpatient Ayurveda treatment course (innovative Panchakarma) costs only less than Rs. 1000 per head. Beneficiaries are 100 patients with diagnosed IVDP based on clinical and MRI/CT reports. Clinical findings before, after and 1 month compliance therapy will be documented based on a standard proforma and video clippings. Results show that the statistical data for the ongoing project (treated 77 cases till date) were awaited. Clinically, it is very cost-effective as well as effective; improvement in life quality and it is an evidence-based Ayurveda. Only Ayurveda medicines are used for pain and disease management, using only medicines of Govt. sector institution, OUSHADHI. Recurrence is very rare. **[PA-777]**

Keywords: Ayurveda; Panchakarma; AYUSH

Seasonal Variation in Biochemical Parameters in Healthy Volunteers

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Seasons affect each and every aspect of the human physiology as the body has a biological clock and circadian rhythm based on the seasons. According to pioneer ayurvedic physician Acharya Charak, human beings experience changeable strength in different seasons. Hence, this study was planned to evaluate inter-relationship between seasons and human beings in terms of seasonal variations in biochemical parameters in healthy individuals. For this study, 80 healthy volunteers (men = 42, women = 38) aged 16–60 years were selected and assessed for three consecutive seasons (early winter, spring and rain). Routine biochemical lab investigations were performed to see any change in their normal values. Paired t test was applied to find out significance between data of two seasons, whereas analysis of variance (ANOVA) test was used to evaluate significance in difference between above-mentioned three seasons (early-winter to spring, spring to rain and early-winter to rainy season). The results indicate significant (<0.05) to highly significant (<0.001) seasonal variation in most of the parameters. **[PA-797]**

Keywords: seasonal variations; biochemical parameters; inter-relationship between seasons and human beings

Pharmacognostic and Therapeutic Study of Katabhi (Careya arborea Roxb) w.s.r. to SidhmaKushta (Pityriasis versicolor)

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This is a pharmacognostic and pharmacotherapeutic study of folklore medicine. The aims and objectives of this study are to conduct the studies on 'Katabhi' (Careya arborea Roxb.); to do a comprehensive literary review on Katabhi and Careya arborea Roxb; to prepare Katabhi Ghana Vati and Lepa; pharmacognostical study; phytochemical study; pharmacological study and pharmacotherapeutic study in Sidhmakushta w.s.r. to Pityriasis versicolor. Review of literature is dealt under two headings. Drug review consists of detailed conceptual study regarding the drug C. arborea from various literatures. It deals with historical background, literary identity, vernacular names, taxonomy, ecology, part used, properties and folklore therapeutic uses of the drug. Disease review deals with the description

about Kaushta, especially Sidhmakushta-Nidana panchaka, Pathya-Apathya, Chikitsa and description available in modern medicine for Pityriasis Versicolor. Analytical study: Pharmacognostic studies, pharmacological property, taste threshold, physical standards, preliminary phytochemical study, qualitative estimation of active ingredients by TLC, preparation of the drug. Clinical study comprises of clinical studies on patients having symptomatology of Sidhmakushta w.s.r. to Pityriasis versicolor by administering the drug internally, externally and both internally and externally in three groups. Detailed observation has been given and the results are analysed statistically. **[PA-865]**

Keywords: Katabhi; Sidhmakushta; Careya arborea Roxb.; Pytiriasis versicolor

Carrier Stage of Infection: a Prophylactic Management Through Ayurveda and A Study on HIV Positive Patients

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The carrier stage of infection is that the person will be the victim of disease but may not be ill. It is an effort for an Ayurvedacharya that how he can understand that and treat. Hence, for the physician in the treatment of infectious disease, there are two ways to treat, either killing or inhibiting the infectious agent or strengthening the barricades. The objective of this study is to evaluate the effect of Rasayana by Ashwagandhadi lehya and Choorna of indigenous drugs in HIV asymptomatic patients. This is a controlled clinical study comprising of 24 patients divided in two groups with pre- and post-test design. Patients who were detected as HIV positive with no complaints, i.e. asymptomatic stage, who had CD4+ cells more than 300 cells/mm^3 as baseline were selected. Group A patients were given shodhana by Hareetakyadi churna followed by Ashwagandhadi lehya and churna of indigenous drugs. Group B patients were given shodhana by Hareetakyadi churna followed by placebo. Results show that control group treated with placebo, even though had marked improvement, showed marked decline in immune status as assessed by CD4+ cell count, whereas test group showed marked results by increasing CD4+ cell count with the addition of improvement overall. To conclude, in this study, it is proved that Rasayana drugs have an effect in HIV-positive patients in improving immune as well as health status. **[PA-874]**

Keywords: carrier stage; infection; HIV; Rasayana

Clinical evaluation of the efficacy of Athisara choornam in Athisaram (Diarrhoea)

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Athisaram (Diarrhoea) is one of the common problem of the patients attending the Siddha Ayurvedic outpatient department of any Siddha Ayurvedic hospital. In Ayurveda, Diarrhoea has been classified in two broad groups depending upon mature stools and immature stools. They have been termed as Athisaram and Ama- Athisaram respectively. In Ama- Athisaram there is a foul smell and is associated with painful flatulence, distressing constipation, abdominal pain, excess salivation and nausea. In cases of Athisaram exsess liquidity, compactiness, coldness and presence of mucous is reported is by the patients. Non – toxic herbal drugs are used to treat diarrhoeal diseases. As such an Athisara choornam a poly herbal formulation consisting Myristica officinalis, Cuminum cyminum, Trachysphyspermum ammi, Aconitum heterophyllum, Feronialephantum, Holarrhena antidyscentrica, Syzygium maromaticum, Mangifera indica, Rock salt. Aegle marmelos, Limonia acidissima The best quality of above ingredients were purified initially clean with water. Then the ingredients were dried in sunlight. It is then powdered and packed in airtight container was taken for the study of clinical evaluation in the treatment of Athisaram. In the present study 50 outdoor patients of uncomplicated diarrhoea were selected randomly from the private dispensary, Jaffna, Sri Lanka. The necessary investigation and relevant clinical symptomatology were evaluated before and after treatment to draw conclusions regarding the effect of anti- diarrhoea powder. Consent of each patient were taken for the oral administration of drug for these study. Patients with complications were not selected for the study. Anti- diarrhoea powder was given at a dose of 3 g thrice daily with honey for 3 days. The final assessment of response was done on the basic of its effectiveness in relieving clinical symptoms. The response of treatment based on the symptomatological Changes. Before treatment painful defecation was 76% after treatment it was 12%. Consistency of stool was watery / loose in 68% after treatment it was nil. The stool which was 12% Semi-solid rose to 24% after treatment. Before treatment gas formation was 52%, after treatment it became 36%. Elimination of Stool with mucous / blood was 24% which was reduced to 6% after treatment. Decrease in the suffering of patients was noted as evidenced from symptomatic improvement. The trial drug has been found to be useful in bringing about a moderate degree of symptomatic relief. Based on the results of the present preliminary study, it can be definitely concluded that anti diarrhoeal drug is a moderate to highly effective remedy in the management of non specific diarrhoea and it is recommended to be used in all patients with definite results. **[PA-1160B]**

Keywords: Athisaram, Siddha Ayurvedic, Sri Lanka. Anti diarrhoeal, 1,2- Unit of Sidda medicin, University of Jaffna, Sri Lanka.

Need for Standardization of Treatment Approaches in Ayurveda and its Challenges

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Ayurveda is especially known for its highly individualistic approach in the treatment of diseases. There are several schools of thought in understanding the concepts of Ayurveda and implementation of its principles in clinical practice. In this era of globalization and standardization, there is a dire need to arrive at a consensus in the approach to treatment of diseases in Ayurveda. Standardization is the first step towards globalization. It is an essential tool not only for proper understanding of the pathology, appropriate diagnosis, and treatment, but also for scientific documentation and generating evidence for global acceptance and appreciation among the scientific community. There are several constraints and hurdles incoming at a clear consensus due to our own inhibitions and lack of thorough understanding of the science. This paper aims at bringing out the necessity to standardize treatment approaches and the challenges surrounding the same. **[PA-1205]**

Keywords: challenges; Ayurveda; technique

An Analysis of Dosha in the Light of Modern Biofield Imaging Equipment, which Reveal the Prana flow, Chakras and Nadis

Thronton Streeter

Ayurveda means " knowledge of life". Because ayu means life, life in all aspects means from birth to death and Veda means knowledge or learning. Ayurveda always believes in prevention is better than cure. So it is an art of living, philosophy of life, science of health and gives detail information about your daily regimen or routine according to season. Ayurvedic scientists observed that there is similarity between functions in Universe and Man. There are three main causative factors in the Universe. They are called as Dosha or biological humors, which control all the functions in man. They are known as Vata, Pitta, Kapha. Almost all oriental medicines aim at achieving the balance of energies in the body. Science of acupuncture tries to balance yin and yang principles, that of yoga aims at balancing the Ida and pingala nadis and Ayurveda tries to establish the harmony in biological humors or can say doshas in the body. Harmony is health and disharmony is nothing but a disease. Related to these 5 elements there are 7 major chakras in the energy body which govern the balance of kapha, Vata and pitta. These chakra energies can be assessed qualitatively/quantitatively with the help of Poly-contrast Interference Photography (PIP), which finally give a new pathway to research the concepts of Ayurveda from biofield point of view. This will be a revolutionary milestone, which will integrate the Ayurveda with entire Complementary/energy medicine.

Keywords: yin and yang; vata, pitta, and kapha; dosha; PIP,

Clinical Research on Painless Tooth Extraction Under 'Jalandhara Bandha' (without anesthesia)

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There are number of reasons why your dentist might recommend that have a tooth, or even several teeth extracted. The roots of each of your teeth are encased in your jaw-bone. Each tooth's hole in the bone is termed a 'Tooth Socket' a tooth is held in its socket by way of a ligament, which physically binds the tooth in place. Before the tooth extraction process is begun your dentist will of course need to anesthetize numb up' both the tooth that will be extracted and the Jawbone and gums that surround it. At this time amount of discomfort associated with a dental injection can vary significantly, primarily due to the location where the shot is given, but we research that dentist can remove the tooth without prick of anesthetic solution. Ayurvedic dentist has done painless tooth extraction under 'Jalandhar Bandha'! Author extracted more than 100 000 teeth by this magical ayurvedic surgical process. If we try to trace the meaning of the word Jalandhar 'Jal' means 'Net', in this case, net of nadis (energy channels) and the word 'Dhar' means to stop or hold the flow of the fluid (Amrut) flowing through the nadis. We research that under effects of this 'Jalandhara Bandha' tooth can be removed from the 'Socket' easily. This is a painless process without anesthesia for extraction of tooth. Pre- and post-operative clinical study prove that this 'Yogic and Ayurvedic' method is wonderful, harmless, painless and magical. **[PA-423]**

Keywords: Jalandhar Bandha; painless process

Swetapalandu Aschyotana in the Management of Immature Senile Cataract (ISC)

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Senile cataract is a serious degenerative disease responsible for 75% of blindness in India, where it attacks the population 14 years earlier than in the west. Although surgery remains the only option to treat cataract when it attains maturity, it is not out of complications. Researches on the medical line of the management of cataract, in its immature stage have shown encouraging results. In this study a prompt attempt has been made to treat immature senile cataract (ISC) using an Ayurvedic therapy. Twenty patients of ISC were

selected from SDM College of Ayurveda, Hassan and were prescribed daily instillation of Swetapalandu Aschyotana for a period of 6 months. The drug was prepared in the Kriya-Kalpa ward and was provided to the patients for 15 days at a time after every follow-up. Assessments of the conditions were done with the help of questioning, visual acuity, slit-lamp, and ophthalmoscopy examinations. Overall response to the therapy was significant with 10% complete remission and 60% marked improvement in the clinical features. Lekhana, Sodhana, and Yogavahi properties of the drug along with the presence of anti-cataractogenic and anti-oxidant ingredients like quercentin and flavanoids can be attributed to the action of the drug. **[PA-507]**

Keywords: immature senile cataract (ISC); degenerative disease; maturity; Sweatapalandu Aschyotana; anti-cataractogenic; anti-oxidant; quercentin; flavanoids

A Clinical Role of Nasya Karma and Shamana Yog in the Management of Vatika Shirashula w.s.r. to Tension Headache

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The objectives of the present study are to evaluate the role of Nasya karma with Dasamula tail (BR 65/84-85) and Saraswata churna (BP Unmadadhikara) orally in the management of tension headache (Vatika Sirahsula) and the comparative efficacy of nasal and oral routes of administration. Forty-one patients having classical symptomatology of vatika sirahsula were selected from OPD and IPD of IPGTRA Hospital, GAU, Jamnagar, during 2003 to 2004. They were divided into two groups named Nasya group with 20 patients and Shamana group with 21 patients. Nasya group patients were subjected to nasya karma with Dashmula tail for 21 days with a gap of 1 day after every 7 days. Shamana group patients were given 2 g of Saraswata churna three times a day with water for 1 month. Main clinical symptoms were considered and were given suitable scorings for assessment. Brief psychiatric rating scale and 22 Ayurvedic manasa pariksha bhavas with suitable ratings were also considered for the assessment of psychological factor. Of 41 patients only 29 patients (15 patients of Nasya group and 14 patients of shaman group) have completed their full course of treatment. Nasya therapy provided highly significant relief in all patients particularly in Srotonishkasanvat pida (100%), Sandhinishkasanvat pida (100%), Shankanistoda (85%), Ghata sambheda (76%), Shirogaurava (72%), Asamyak nidra (70%), and Bhramadhya evam lalata tapanam (70%). Dashmulas are reputed for their Tridosha and Sirorujhar properties. Til tail itself has anti-vata properties and also helps in increasing the bioavailability of drugs. The ingredients of Saraswata churna probably have shown multidimensional effects in relieving psychological imbalance. Nasya therapy was observed to be highly curative in the management of tension headache. **[PA-600]**

Keywords: Nasya; Saraswata churna; Sirahsula; tension headache

A Randomized Controlled Trial to Study the Efficacy of Panchabhoutika Tailam as Siropichu and Pratimarsa Nasya in Badhiryam (w.s.r. to Sensori-Neural Deafness) in Children up to 12 Years

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The trial was conducted to assess the efficacy of Panchabhouthika thailam as shiropichu and pratimarsa nasya in Badhiryam (w.s.r. to sensori-neural hearing loss) in children up to 12 years. It was also intended to find out the effects on the associated speech deficits, attention skills and sleep. This study was carried out in the Government Ayurveda College Hospital for Women and Children, Poojappura, Thiruvananthapuram, as an interventional, randomized controlled efficacy trial. Children with hearing loss associated with recurrent respiratory tract infections, behavioural problems, diagnosed cases of tumors like acoustic neuroma and systemic disorders like diabetes mellitus and osteogenesis imperfecta were excluded from the study. The total sample population, of specific nature, constituted 40 children. Panchabhouthika thailam as shiropichu and pratimarsa nasya were done for 41 days in the study group and hearing aid and speech therapy were the accepted intervention that was given to the control group. The final assessment showed substantial results in both hearing and speech. The treatment clearly arrested the progression of hearing loss in all the subjects of the study group. In the control group a deterioration of hearing was observed after the treatment and follow-up period. Attention skill and sleep showed marked improvement in the study group. The comparison made between the percentage change of hearing levels, clarity of speech, Attention skill and sleep of both the groups after the treatment and follow-up period showed that the treatment was effective in managing hearing loss and its associated complaints. The conclusion drawn from the study was that Panchabhouthika thailam as shiropichu and pratimarsa nasya were effective in Badhiryam (w.s.r. to sensori-neural hearing impairment) of children up to 12 years. **[PA-876]**

Keywords: shiropichu; pratimarsa nasya; Badhiryam

Role of Lekhana in Netrarogachikitsa

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Acharya sushruta classifies nethra roga according to treatment ascepts.Most of them are sashtra sadhya diseases. Sastra karma in nethraroga includes chedhana, bhedhana, vyadhana and lekhana karma .Lekhana is one among astavidha sastra karma and is explained by acharya susruhtra and indicated in vartmagata roga. Being predominant in pridhwi and agni mahabhoothas, vartma is mostly affected by vascular and muscular diseases. Pothaki,

kumbhika, klistavartma and kardama vartma are some lekhya diseases described in our classics. Lekhana has proven effect especially in pillam. Chronic inflammatory diseases of the Palpebral conjunctiva under various utklishta vartma mentioned in ayurvedic classics, can be cured only by Lekhana with appropriate poorva and paschat karma. Lekhana is done by using japamukulam, sephalika, sakapatra, samudraphenam, etc. Detailed aspects of Lekhana karma in pothaki are explained in the presentation.

Keywords: lekhana; vartmagata; pothaki

Common Pathological Conditions Where Leech is Effectively Used Clinically

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Rakthamokshana is one among the five sodhana karma and given foremost importance for alleviating many Rakthadoshajanya disorders. For blood-letting, different procedures are in practice since Samhita period. Especially Sushrutha has highlighted Raktha as the fourth doshas. Among these procedures Jalauka Vacharana is a noble painless method of blood-letting because this procedure can be applied for pediatric to geriatric and also for Sukumara people as the bite of a leech does not cause any pain due to the presence of anesthetic agent in its saliva. Here an attempt is made to emphasis a wide range of clinical application of leech as explain classic. **[PO-86]**

Keywords: Rakthamokshana; blood-letting; leech

Complication and Management of Kshar Sutra Ligation in Arsh/ Bhagandra

K V S Rao

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Kshar sutra is one of the best treatments for ano-rectal diseases, especially Arsh/Bhagandra. It gives more than 96% result, but most of the ayurvedic graduates are afraid of doing this treatment .Pain is the main factor of this procedure. Here I am mentioning some common complications of kshar sutra ligation: pain, bleeding, retention of urine, secondary piles, peri anal abscess, pruritis ani, vasovagal shock. Pain: Pain is a very common complication of kshar sutra ligation. (1) Preparation of Kshar sutra; (2) correct diagnosis and selection of piles mass for ligation; (3) base dissection; (4) internal sphincter band; (5) sitz bath; (6) nadi swed; (7) medicines; (8) removal of blood from piles mass; (9) gudvistaran; (10) bowel preparation and suction. Bleeding: primary hemorrhage, secondary hemorrhage, blood supply of anal reign, packing, good light source, suction, retractor, ligation, ash packing, management of hypovolamic shock, IV fluids, air way, hemaceal, adrenalin/ dopamine, mephentine. Retention of Urine: sItz bath, nadi swed, catherisation, complete procedure. Peri Anal Abscess: (1) aseptic precautions, (2) uses of disposables, (3) method of sterilization, (4) antibiotics. Pruritis Ani: sensitive to kshr sutra. Secondary Piles: subsides itself after slough out the pile mass. Vasovagal Shock: monitor blood pressure, pulse, oxygen saturation with the help of pulse oxymeter, maintain IV line. This paper presents the details of each complication. **[PA-100]**

Keywords: Kshar sutra; ano-rectal disease; Arsh/Bhagandra

Clinical Research on Painless Tooth Extraction Under 'Jalandhara Bandha' (without anesthesia)

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There are number of reasons why your dentist might recommend that have a tooth, or even several teeth extracted. The roots of each of your teeth are encased in your jaw-bone. Each tooth's hole in the bone is termed a 'Tooth Socket' a tooth is held in its socket by way of a ligament, which physically binds the tooth in place. Before the tooth extraction process is begun your dentist will of course need to anesthetize numb up' both the tooth that will be extracted and the Jawbone and gums that surround it. At this time amount of discomfort associated with a dental injection can vary significantly, primarily due to the location where the shot is given, but we research that dentist can remove the tooth without prick of anesthetic solution. Ayurvedic dentist has done painless tooth extraction under 'Jalandhar Bandha'! Author extracted more than 100 000 teeth by this magical ayurvedic surgical process. If we try to trace the meaning of the word Jalandhar 'Jal' means 'Net', in this case, net of nadis (energy channels) and the word 'Dhar' means to stop or hold the flow of the fluid (Amrut) flowing through the nadis. We research that under effects of this 'Jalandhara Bandha' tooth can be removed from the 'Socket' easily. This is a painless process without anesthesia for extraction of tooth. Pre- and post-operative clinical study prove that this 'Yogic and Ayurvedic' method is wonderful, harmless, painless and magical. **[PA-423]**

Keywords: Jalandhar Bandha; painless process

A Controlled Clinical Study to Evaluate the Efficacy of Kshara Sutra Ligation in the Management of Arsha w.s.r. to Hemorrhoids

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Arsha (hemorrhoids) is included in Ashta Mahagada, which shows its graveness itself. It is a common clinical problem related to age, dietary factors, and life style. At least 50% of people over the age of 50 years have some degree of symptoms of hemorrhoids. Sushruta has mentioned Kshara karma as a local treatment in the management of Arsha. Kshara Sutra Ligation (KSL) is a type of Kshara karma. KSL is much suitable and more acceptable as compared to prevalent methods in the contemporary medical science. The present clinical study is undertaken to evaluate the efficacy of KSL and hemorrhoidectomy in treating second and third degree of hemorrhoids. A total of 61 patients were registered and divided into two groups in random. In group A, 35 patients were treated with KSL, while in group B 26 patients were subjected to hemorrhoidectomy. Highly significant (100%) result was found

in KSL chikitsita group especially in Rakta srava, Gud vedna, and Aniyat vibandha, while moderately significant result was found in hemorrhoidectomy-treated group. KSL can be adopted as a standard treatment and better option for management of Arsha without any major post operative complications and recurrence. **[PA-722]**

Keywords: Arsha; Kshara Sutra Ligation; hemorrhoidectomy; Kshara Karma

Management of Dagdha Vrana with Kadali Patradana: a Cosmetoclinical Approach

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In India, incidence of burns (Agni Dagdha) is 100 000 per year, and mortality due to burns is a problem of considerable magnitude with an estimated number 22 306 death/ year. 10% of all accidental deaths and 7% of all suicides in India are caused by fire. All over the world, of all accidental deaths, 2.10% of men and 3.40% of women die due to Agni Dagdha[burns], as Agni Dagdha[burns] is a most devastating and distressing injuries a person suffers. No any injury sustained by man is frightful with complications, as the burn wound; assessment cosmetoclinical trial of Kadali patra and Yastimadhu ghrita compared with the conventional Framycetin-medicated gauze and Silver sulphadiazine in the dressing of burn wounds. A total of 100 patients with 10% to –40% burns of total body surface area were randomly allocated to either of the two treatment groups. In Kadali patra and Yastimadhu Patradana group, the requirement of total number of dressings was significantly reduced, and the mean healing time was significantly less with diminished scar and hospital stay was shorter. Kadali patra forms a uniform surface under which epithelial growth occurs. Kadali patra easily removed so new delicate epithelium kept intact and also it maintained the moisture of wound which provided healthy ground for best healing. **[PA-858]**

Keywords: patradana; devastating; cosmetoclinical; synergetic

Comparative Clinical Evaluation of Surgical and Medicinal Treatment under the Influence of Deepan and Anuloman Drabya in the Management of Parikartika (Fissure-in-Ano)

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Anal fissure is a common problem that causes substantial morbidity in people who are otherwise healthy. Incidence of anal fissure is similar in men and women. Spasm of the anal sphincter has been noted in anal fissure, and for many years treatment for this has been

lateral internal sphincterectomy which is simple and effective, but the fundamental drawback of this surgery is its potential to cause minor and sometimes permanent incontinence in the control of gas, mucus, and occasionally stool. Pharmacological sphincterectomy with injectible botulin toxin and application of nitroglycerin ointment, calcium channel blockers, and phosphodiesterase have been used to eliminate the need for surgery and avoid the risk of permanent injury to the internal anal sphincter but have shown to be inconsistent in promoting healing of fissure. A reduction in the anal spasm using local anesthetics or smooth muscle relaxant and preventing with emollients allows the fissure to heal. In Ayurvedic texts, this disease is comparable with Parikartika. However, Sushruta mentions it as a complication of other diseases that develops due to mal position of the vasti netra during vasti chikitsa, and its treatment in the form of both local and general is well described by Sushruta. Observation in present study proves that if different therapeutic measure like Lords procedure, jatyadi tail introduction, along with deepan and anuloman dravya given judiciously, treatment of Fissure in Ano will be better. Advantages of this therapy are its vast applicability like in small outpatient department level with minimum facility it can be done. Besides, the recurrence rate is nil, and no complications or, side effects occur during this therapy. **[PA-1111]**

Keywords: anal fissure; spasm; Sushruta

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Kshar sutra is one of the best treatments for ano-rectal diseases, but some common complications are also faced by kshar sutra practitioners. After application of kshar sutra, 'pain, bleeding, retention of urine, secondary piles, vasovagal shock, hypovolumic shock' are the common complications that occur. By simple technique, we can reduce the complications. Nadi swedan gives very good result for pain management and retention of urine. Preparation of kshar sutra is having a very important role related with pain. Some simple clues are very helpful to reduce complications in the kshar sutra treatment. Pain will be reduced by less bhawana kshar sutra, Nadi swedana, and base dissection of piles mass, ligation without sphincter muscles. Bleeding complication can be reduced by correct diagnosis of kshar sutra ligation of piles mass and quality of thread, vasovagal shock in Ayurveda Guda sthan is mentioned in Marm sthan, so sometimes patient can go under shock during procedure. Table head low position helps a lot. Abscess, complication can be reduced by aseptic precautions. Some simple precautions and techniques give very dramatic results; 20% complication rate comes to 2–3%. Kshar sutra is one of the complete surgeries for ano-rectal diseases, and complications are also very common; so Ayurvedic practitioners must know the management of complications for the same. This clinical study was done on 4056 patients from 2001 January to 2010 January. **[PA-1115]**

Keywords: Kshar sutra; ano-rectal disease; Arsh/Bhagandra

Study of Cases of Tender Heel Using Ayurvediya Method

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This paper deals with 'Tender Heel', with supporting data. The paper does not discuss the anatomy and physiology of the heel. I am practising on this topic for the past 8 years. I have practised all the cases in rural areas and have treated patients from different categories as well. Here the cases observed are all from the poor class of society and some cases from the urban area. A number of cases got good results with patients reporting no pain or any difficulty in walking. Most of the cases are women and farmers. The paper stresses the need of further research on blood-letting procedure described in Ayurvedic text. **[PA-1154]**

Keywords: tender heel; anatomy and physiology; rural area

Management of Gudabhramsha with Non-Invasive Technique

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The purpose of this study is to demonstrate the evaluation of the parasurgical technique in the management of Gudabhramsha with respect to rectal prolapse. Patients with rectal prolapse are selected on the basis of subjective and objective criteria. The treatment procedure requires lithotomy table, local/spinal anaesthesia, slit proctoscope, minor/major O.T, Apamarga Pratisaraneeya Kshara, Changeryadi Gritha and Bandana dravya. The paper discusses the treatment procedure in detail, including visual, and the post-operative management. The subjective and objective parameters before and after the treatment with regard to rectal prolapse, mucous/blood discharge, etc., are also compared and analysed. **[PA-1204]**

Keywords: rectal prolapse; Gudabhramsha

Anal Manometry Study in Achyranthes aspera Linn and Stereospermum Suaveloens Kshara kustra in the Management of the Fistula in Ano

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In the Ayurvedic text, fistula in ano has been described as "Bhagandara". Sushruta (800 BC) elaborately described various anorectal disorders for the first time in the history among which fistula in ano is a prominent one. Susrutha has adopted surgical, para surgical and conservative measures for the fistula in ano. Under the para surgical management 'Ksharsutra' also known as a medicated thread had been introduced. The main aim of this research is to assess the clinical efficacy as well as side effects of the Achyranthes aspera and Stereospermum Suaveloens kshara sutra in the management of the fistula in ano. Anal manometry has become a routine investigation for the evaluation of patients with anorectal disorders. Recent studies indicate that ano rectal manometry can reveal pathology not detectable by physical examination alone. The balloon system was a convincement method to use, pressure was reproducible and easy to estimate and motility details were well shown. This method has been adopted for this study to assess the sphincteric tone. Kshara sutra treatment has been considered as better alternative in comparison to surgery to avoid incontinence and recurrence but details of anorectal pressure profile has not been studied so far so one of the objective of this study is to overcome the lapses in the treatment of kshara sutra. The goal of Kshara sutra treatment of fistula in ano by virtue of the properties of its content which has necrolytic action on tissues. During application of kshara sutra there is a continuous drainage of fistulous track and ingredients used in the thread help in healing. The Achyranthes aspera and Stereospermum Suaveloens kshara have been mentioned in Susrutha samhita as a plant used for the preparation of kshara. Two different types of ksharasutra has tested clinically by measuring unit cutting time and study the sphincteric tone pre- and post- treatments by using anal manomtery technique. The average unit cutting time is less in Achyranthes aspera in comparison to the Stereospermum Suaveloens ksara sutra. In this study the patient treated in both kshara sutra there were no significant reduction of the resting anal pressure ($P > 0.05$) has been observed either post treatment or follow up but the squeeze anal pressure is found to be significantly reduced ($P < 0.01$) after treatment in high anal fistula and it insignificantly reduced ($P > 0.05$) in the follow-up. There were no cases of incontinence has been reported in this study.

Ayurvedic Pharmacology: a Lucid Theory and Gaamitva Sankalpana - Site-specific Drug Delivery

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Ayurveda is unfathomable in its treasures. It remains a mystery as to how the seers were able to pinpoint a particular drug for a particular ailment; hence, Ayurveda has taken aid from a number of philosophies. To name some, the Satkarya Vada, the Karya Karana Siddhant, the Kshanabhangura Vada, Panchamahabhuta Siddhanta, etc. Acharyas never chose a particular drug or group of herbs by sheer instinct. This paper is a hypothetical venture to illustrate some of the deep thinking presumably made by our Aptas. This is also an attempt to discover new drugs and formulations with a similar thinking. A stream of questions that help the physician to decide the line of treatment are: (1) deciding the exact place of samprapti (pathogenesis); (2) deciding the drug/the formulation to revert the pathology; (3) delivering drug to site of samprapti or to say designing a formulation: A + B + C = end product, where A: drug who has a site-specific action or can be said 'vehicle'; B: group of drugs directly reverting the pathology; C: catalyse the overall activity of the formulation; (4) Numerology: Avyakta sankalpana—nature's rule of creation is applied for formulation and 'Atharvaveda', which describes some numericals to be blessed with the upshot of creation. A combination of drugs that has a site-specific action (A) and group of drugs having ability to reverting the pathology (B) with the help of catalyst (C) helps to cure disease very fast. **[PA-359]**

Keywords: Ayurveda; samprapti; dravya; guna; dhatu; gamitva; designing formulations; site-specific drug delivery; target action

Why and How Vascular Biology of Atherosclerosis Need an Ayurvedic Eye?

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Historical evidence of Atherosclerosis is found in Egyptian mummies and in Ayurveda before 200–100 BC. Evolution in concepts concerning the pathology of genesis of Atherosclerosis is based on the questions why it became epidemic; why it affects only certain regions of arterial tree, large or medium sized arteries; and why its clinical manifestations occur only at certain time. Rampant atherosclerosis is found at the first decade of life in individuals with homozygous familial hypercholesterolemia. Atherosclerosis can affect adolescents in our society. Because modern drug therapy will almost certainly be neither cost-

effective nor medically appropriate in primary prevention in younger population, intensive life style modification to reduce coronary risk due to lipid disorder becomes a social priority. The aim of this study was to review Ayurvedic literature thoroughly in finding solution for primary prevention of vascular changes. The objectives were to generate sufficient basis for further research purpose from Ayurveda and modern compendia by stating the meanings of Ayurvedic terminologies hypothetically. Role of Adventia in arterial homeostasis and pathology known recently is already mentioned in Ayurvedic compendia. Knowledge of Rakta, Raktavahini sira, Dhamni vyakarana, Raktagni, Dhamanipratichaya, Kharameda, Vatarakta, Sirasamkocha,Dinacharya, Rutucharya, Aharvidhividhan and Shonitachikitsa will certainly prove cost-effective and medically appropriate in primary prevention. **[PA-432]**

Keywords: ayurvedic review of vascular changes

Guna and its Importance in Healing Science

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Guna has a specific place and use in the field of healing science (Ayurveda), as well as in our daily life. Guna word has many meanings such as rope, quality, property and specific character. One thing is separated from the other on the basis of Guna. Guna is one of the 'Bhav Padarthas'. Ayurveda has established its own thought or philosophy regarding Karmapurusha or Shaddhawa.....akpurush or chikitsyapurush. Guna is inherently located in Dravya devoid of any independent property and action. It exists in Dravya, Guna does not possess Guna in itself. There is an interrelationship between Dravya and Guna along with Karma as depicted by Acharya Charak. According to Charak Samhita, there are 41 Gunas in Ayurveda, among the prominent ones are: (1) Gurvadi (Physio-Pharmacological), (2) Paradi (Para-Pharmacological), (3) Vishista (specific), and (4) Adhyatmik (Psychological). Amongst them, Gurvadi Gunas become responsible factor for drug's action. It is a fact that Dravya, Guna and Karma are the basic entities on which pharmacodynamics stands. Guna is a link between Dravya and its Karma. In fact, Karma is nothing but communication and permutation of Guna. Due to Guna, drugs help to balance the disorders in Doshas, Dhatus, and Malas. In this way, Guna of a substance helps to balance body and mind of a person. **[PA-474]**

Keywords: Guna; Dravya; Karma

The Concept of Congenital Anomalies in Ayurveda

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In Ayurvedic texts, scholars have explained that the seed parts (chromosomes) are very specific for each species and for all the organs within a particular species. However, even a blind parent can give birth to a normal child provided the corresponding part in the seed (sperm or ovum) is healthy. Only when affection reaches the corresponding seed part, the

particular defect would arise. Furthermore, they say that a woman addicted to wine gives birth to an offspring with polydypsia, weak memory and unbalanced mind. A scheming woman gives antisocial, envious or effeminate offspring. The essential stages of development of the embryo and fetus were vividly depicted. The causes of malformations, as understood then, included genetic causes, pelvic and uterine disorders and improper antenatal care. They not only observed the congenital defects but also established the importance of proper antenatal care for getting a healthy child without any congenital defect, which are very creditable today. **[PA-990]**

Keywords: congenital malformations; antenatal care; Ayurveda

Application of 'Asthimala Lakshanas' to Evaluate 'Asthi Sarasaratva Parikshan'

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Everybody knows the importance of Ayurveda to maintain health as well as to cure diseases. It is little bit difficult task for Vaidyas concern with 'Agni' in Dhatwagnibal Parikshan, i.e. Sarasar Parikshan. Formations of Malas depend upon the 'Agnibal'. Examination of Dhatwas is not so easy because, in normal state, they never leave the body, while Malas excretes routinely. Even a slight change in 'Agnivyapara' gives effects on nature of malas qualitatively and quantitatively. For Dhatusarasar Parikshan, why cannot we use Dhatu Mala lakshanas? 'Asthi Dhatu' is the most stable and toughest of all. It is not easily imbalanced in healthy as well as diseased conditions. There are increased number of cases of osteoporosis (Asthi Kshaya) after the age of 40 years in females as well as in aging processes in both sexes. It is supposed that it occurs in 'Asthi-Asara' persons. This may be prevented by evaluating 'sarasar parikshan' in early ages. Graying of hair and hair fall are the problems increasing in young generation, yet there is no proper solution. This study may help physicians to solve these problems. Certain parameters are useful for the study of 'Asthi Sarasar Parikshan' to measure 'Nakha Vriddhi', 'Loma Sankhya', etc. along with specific questionnaires. After collecting the statistical data from large sample group, I got hopeful results. Finally, I came to a conclusion that 'Nakha Vriddhi and Loma Sankhya Pramana' are maximum in 'Asthi-Asara' persons and minimum in Sara one, which clearly indicates that in Sara persons 'Dhatu Mala Abhivyakti' is 'Alpa' and in 'Asara' it is 'Adhika' by quality and quantity. **[PA-1003]**

Keywords: Sarasar pariksha; Asthi Dhatvagni; Dhatumalas; Nakha Loma abhivyakti

Linking Vedic and Contemporary Sciences: Pharmacogenomics and Traditional Medicine

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Pharmacogenomics is the study of influence of genetic variation on drug response by correlating gene expression with a drug's efficacy or toxicity. There was underlined by Charka 4000 years ago as 'Every individual is different from another and hence should be considered as a different entity'. In human 99.99% of DNA sequence is same and only 0.1% variations due to SNP (single nucleotide polymorphism) and thus different humans respond differently to diseases, pathogens, chemicals, drugs and vaccines. Countries like Korea, China and Japan are intensely researching on links between their traditional medicines and pharmacogenomics. For Ayurveda also, such research is being reported. One of the important and interesting correlations observed between CYP2C19 genotypes and 'prakriti' of individuals were studied in 132 people for differences in rates on metabolism depending on their prakriti. Another study on 76 subjects showed a correlation between HLA type and Prakriti type. In this paper we deliver the comprehensive outline and frame work for linking sciences of pharmacogenomics and traditional medicines. These observations have an impact on phenotype-genotype correlation, drug discovery, pharmacogenomics and personalized medicine. The future belongs to application of contemporary sciences for evidence generation of traditional medicines. **[PA-1049]**

Keywords: Pharmacogenomics; DNA sequence; SNP (single nucleotide polymorphism)

Scientific Exploration of Srotas: a Conceptual Study

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Ayurveda has exercised its sovereignty by virtue of its time proven external principles and approach of treatment. These principles and thoughts are accepted through a series of experiments by various scholars for thousands of years. Srotas are the basic transporting system of the body, which eventually transport the essential materials to the target organs. Thirteen and 11 pairs of srotas have been described in Ayurvedic classics from different stand points. Apart from that, innumerable number of minute srotas has also been depicted in text. Affliction of srotas and its root is the primary point of assessment of each and every disease. Pathological assessment is only possible if srotodushti is properly evaluated. Different channels and transportation systems have also been described in modern medical science. Their respective role in diseases prevention and production have also marked and explored. The present paper will discuss about specific affliction of srotodushti and spreading of different diseases along with comparative and scientific outlook. **[PA-1142]**

Keywords: srotas; srotodushti

Customisation of Ayurveda Therapies for the Global Spa Industry in Congruence with Principles of Ayurveda: a Real Challenge

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Ayurveda therapies, especially the Panchakarma Purvakarmas, are quite popular among the spa goers worldwide. Ayurveda in the western world is known for its relaxation and rejuvenation therapies rather than as a complete health system. The concept of Sukha Chikitsa is not alien to Ayurveda. Unfortunately, while designing these therapies for relaxation and rejuvenation purposes, the principles of Ayurveda are seldom taken into consideration. Indiscriminate designing of such treatments could lead to several complications and health hazards. Therefore, there is a need for designing therapies for the spa industry in congruence with the principles of Ayurveda, albeit not compromising the fun-intention of the Spa goers. This paper discusses the issues and challenges in this arena. **[PA-1213]**

Keywords: Panchakarma Purvakarmas; spa industry; Ayurveda

Samprapti of Hridaya Roga with Clinical Presentation of Dialated Cardio Myopathy and Future of Ayurveda in Cardiology

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In Ayurveda, Hridaya Roga is explained with full aetiology. My idea is to bring our focus to the Hetu Sevana and Samprapti of Hridaya roga. Our focus is not only on the Hridaya but also on the Hridaya and Aamashaya involvement with Rasavaha Srotasa, Pranavaha Srotasa and Annavaha Srotasa. Under this vision, dilated cardiomyopathy can be explained as Dushta Kapha in muscles of heart and Dushti of Rasa Dhatu or as Rasadhatugata Kapha. Finally, with the help of this aetiology and by understanding the Dosha and Dushya involment, i.e. Tridosha and Aamashaya and Srotasas, an Ayurvedian can face the modern challenges regarding cardiac disorders and can treat it accordingly. With the reference to this, we can go by an idea towards cardiac disorder by vitiated Doshas, i.e. Vigunavata, Dushtkapha and Pitta, and also we can say it is nothing but the treatment of Annavaha Srotasa and Rasavaha Srotasa (treatment of Aamashaya + Hridaya = Health, disease free life), i.e. the future of Ayurveda in cardiology is a strong ray of hope towards heart, healing, health and happiness. **[PA-7]**

Keywords: Hridaya Roga; cardiology; dialated cardiomyopathy; Rasavaha Srotasa; Annavaha Srotasa

An IT-based Module for Determining the Punchamahabutic (PMB) Constitution of Dosha Vikalpa (DV) in Classical Ayurveda

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The Dohsa Vikalpa (DV) is an important philosophical theory in Ayurveda. This is applicable in many aspects of therapeutic fields in Ayurveda. In fact, the awareness of DV is grater significance of clinical contexts. However, the extensive analysis of DV has neither been elaborated in detail in Ayurveda classics nor has been considered for systematic study. According to Ayurvedic classics PMB is the basis for any extensive analysis of Dosha Vikalpa. The study therefore, concerns the design of an appropriate computer programme to determine PMB constitution of each Dosha Vikalpa. The programme would provide a systematic base for the general physician or researcher who would otherwise not been able to cope up with such interpretation through his general cognitive skills. The outcome will facilitate many fields of Ayurveda such as clinical medicine, pharmacology, therapeutics and development of new Ayurvedic disciplines.

Keywords: Dohsa Vikalpa (DV); PMB; computer program

Effect of Feeding Herbal Galactogogue Medication on Milk Production in Malabari Goats

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A study to find an effective and replicable solution by herbal galactogogue medication (HGM) for reduction in milk yield of Malabari goats was taken up by Krishi Vigyan Kendra, Thiruvananthapuram, as on farm testing funded by Indian Council of Agricultural Research. HGM refined from indigenous traditional knowledge had in every 100 g of the same, dried powders of roots of Asparagus racemosus (40.000 g) and Ipomea palmata (13.335 g) and seeds of Trigonella-foenum groecum (46.665 g). A total of 36 Malabari she goats were selected and distributed equally into two treatment groups I and II as uniformly as possible with regard to all relevant physiological parameters. A pre-treatment period of 2 weeks was provided to goats in both groups to accustom them into a common feed regimen. In the trial period of 2 weeks duration which followed, goats in group I received 25 g of HGM in addition to the uniform diet provided to all goats in both treatment groups. Daily milk production of goats in both groups was recorded to analyze daily Group Mean Milk Yield (GMMY). Goats in group I recorded an increase in GMMY of 0.53 l than those in group II during the 2-week trial period. **[PA-400]**

Keywords: indigenous traditional knowledge; herbal galactogogue medication; Malabari goats

Wound Healing Properties of Datura alba in Emu (Dromaius novaehollandiae)

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The emu is the second tallest bird in the world and the tallest native to Australia. It belongs to a group called ratites. Emu farming is becoming popular in India mainly due to hardy nature of this bird and adaptability to harsh climatic conditions. Self-inflicting wound as a sequel of infighting cause is a challenging task in day-to-day management of farmed emu adult birds during the breeding season. Datura alba is traditionally used to treat asthma, muscle spasm, whooping cough, hemorrhoids, skin ulcers, etc. Oil-based preparations of Datura alba plant has been utilized by the siddha practitioners since ancient times for all types of wounds. However, scientific data to support the wound healing activity of Datura alba in emu birds were not available. Hence, the present field level study was conducted

at JM emu farm, Trichirappalli District, Tamil Nadu, to explore the wound healing activity of Datura alba crude extract. A 5-year old male emu bird weighing 34 kg was presented with an injury on the right thigh during the breeding season of 2010. Clinical examination revealed lacerated wounds involving the muscles measuring (length × breadth in cm) 10.2 × 7.3 on the left thigh region. The leaves of the Datura alba plant were collected from the areas of Trichirappalli District of Tamil Nadu. About 100 g of Datura alba leaves juice was extracted. Then the extract was filtered and mixed with equal quantity of coconut oil. This mixture was kept under sunlight for 48 h. The preparation was applied topically on wound twice daily. Complete healing of wound was observed on 14th day. Since the study was carried out at field level, the efficacy of treatment was evaluated based on reduction of wound area only. From this study, it can be concluded that the Datura alba leaves extract along with coconut oil can be used in the management of wounds in emu birds. **[PA-587]**

Keywords: Emu; Datura alba; wound

Current and Future Status of Herbal Medicine w.s.r. to Veterinary Science

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Atharaveda, the progenitor of Ayurveda, provides significant information about ailments of animal and their cure through herbal medicine. There are so many citations in Ayurveda where the disease of the animals and their cures are described in a full fledged form. In Charaka Samhita with reference to fever it is said that fever (pyrexia) affects every living being may it be human or animal or even insects. In another place Charak Siddhi sthana 11, he mentions about the therapeutic use of basti karma. Shalihotra (2350 BC), the author of Ashwayurveda, was probably the first known veterinarian of the world and the father of Indian veterinary sciences. There are some other treatises like Nakula Samhita by Nakula, Gavayurveda by Sahadev, and Hastyayurveda by Palkapya. Today's ethno-veterinary practices are becoming popular and a number of surveys have been carried out across India. It has been proved that herbal medicines are very effective in curing disease as well as immense nutritious for animal. More than 64 plants have been found to possess significant antibacterial property. A few examples of drug and disease are as follows: Anti-diarrhoeal – Holarrhena antidysenterica, Cyperus rotundus, Woodfordia fructicosa, etc.; Anti-stress – Ocimum sanctum, Withania somniferum, and Emblica officinalis; Wound healing – Azadirachta indica, Curcuma longa, Calendula officinalis, etc.; and Galactogogue: Leptadenia reticulata, etc. It is clear from the examples cited above that plant-based medicines may be used effectively in a variety of animal disorder. **[PA-808]**

Keywords: ethno-veterinary practices; galactogogue

Wound Healing Property of Eupatorium glandulosum in Mice

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This study was conducted to access the wound healing property of Eupatorium glandulosum (Communist Pacha) which is being used as a wound healing drug by traditional healers of Kerala. Acute oral toxicity of the plant was studied by administrating its ethanolic extract at the dose of 2000 mg/kg bodyweight orally to mice for 5 days. Dermal toxicity of the plant was studied by the ethanolic extract of the plant on the external surface of ear of mice for 5 days. The wound healing property of the plant was tested by excisional wound healing method in mice and by applying the extract over the wound and comparing the results with a negative control and boric acid as the standard drug. The wound size was measured for five consecutive days and reduction in wound area was taken as the criteria for wound healing capacity. No animals were found to possess any toxic signs grossly or on autopsy even at very high doses of 2000 mg/kg. The internal organs did not reveal any gross abnormal lesions indicating the toxicity. No dermal toxicity was observed except for a very mild hyperemia. In the excisional wound healing model wound size was reduced by 83.8% as compared with 81.08% reduction of boric acid by 5 days indicating the excellent wound healing property of the plant. The plant had an excellent wound healing property as well as no acute oral and dermal toxicities. **[PA-812]**

Keywords: Eupatorium glandulosum; wound healing

Therapeutic Efficacy of Nigella sativa and Caesalpinia crista in Clinical Gastro-intestinal Nematodiosis in Lactating Cows

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The parasitic infection especially the gastro-intestinal nematodiosis in domesticated animals is a major problem in dairy farming in India. It is responsible for causing huge production losses including morbidity and rarely mortality. The use of the commercially available antihelmintics may lead to resistance and residual effect in milk and meat. The therapeutic trials of two herbal anthelmintics N. sativa and C. crista crude seed powder in clinical gastro-intestinal nematodiosis in lactating cows were carried out on the basis of faecal sample examination and per cent reduction in the number of eggs per gram of faeces (EPG). The treatment was given at 50 mg per kg body weight orally for three consecutive days in both the groups. N. sativa seed powder was effective to the extent of 58.7% and 76.2% on days 21 and 28 post-treatment, respectively; whereas C. crista seed powder was 67.9% and 77.4% effective on days 21 and 28 post-treatment, respectively. The milk pro-

duction of the animals treated with N. sativa was increased signicantly as compared with that of the C. crista-treated animals. Overall N. sativa is more effective in lactating cows as anthelmintics and galactogogue. No untoward effect was recorded during the study. The pharmacokinetic aspect with alcoholic/aquatic extracts of the seed powder needs further investigations. **[PA-1034]**

Keywords: gastro-intestinal nematodiosis; Nigella sativa; Caesalpinia crista; therapy

A Randomized Controlled Trial to Study the Efficacy of Panchabhoutika Tailam as Siropichu and Pratimarsa Nasya in Badhiryam (w.s.r. to Sensori-Neural Deafness) in Children up to 12 Years

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This randomized controlled trial was conducted to assess the efficacy of Panchabhouthika thailam as shiropichu and pratimarsa nasya in Badhiryam (w.s.r. to sensori-neural hearing loss) in children up to 12 years. It was also intended to find out the effects on the associated speech deficits, attention skills and sleep. The study was carried out in the Government Ayurveda College Hospital for Women and Children, Poojappura, Thiruvananthapuram, as an interventional, randomized controlled efficacy trial. Children with hearing loss associated with recurrent respiratory tract infections, behavioural problems, diagnosed cases of tumors like acoustic neuroma and systemic disorders like diabetes mellitus and osteogenesis imperfecta were excluded from the study. The total sample population, of specific nature, constituted 40 children. Panchabhouthika thailam as shiropichu and pratimarsa nasya were done for 41 days in the study group, and hearing aid and speech therapy were the accepted interventions that were given to the control group. The final assessment showed substantial results in both hearing and speech. The treatment clearly arrested progression of hearing loss in all the subjects of the study group. In the control group, a deterioration of hearing was observed after the treatment and follow-up period. Attention skill and sleep showed marked improvement in the study group. The comparison of percentage change of hearing levels, clarity of speech, attention skill and sleep of both the groups after the treatment and follow-up period showed that treatment was effective in managing hearing loss and its associated complaints. The conclusion drawn from the study was that Panchabhouthika thailam as shiropichu and pratimarsa nasya were effective in Badhiryam (w.s.r. to sensori-neural hearing impairment) of children up to 12 years. **[PA-23A]**

Keywords: Panchabhoutika Tailam; Badhiryam; pratimarsa nasya

Influence of Prenatal Vedic Methods on Maternal and Fetal Health

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This study is an endeavor to verify the scientificity and efficacy of three prenatal guidelines prescribed in Vedic Sanskar System. To corroborate, the same specific practices were designed. Various couples and married women were guided to follow designed practic-

es well before conception and thereafter during their pregnancy, child birth including post-partum stage. Significant parameters were observed through various medical equipments, monitoring machines, software, laboratories and ultrasound studies. Hitherto, around 500 human pregnancies have followed the said practice ofVedic Sanskar system, and results have been highly encouraging, i.e., healthy and early conception was found in 88% of couples; 90% of mothers have experienced balanced health during gestation as well as post-delivery. Similarly, fetal growth and development were also found to be proportional and speedy among 92% of fetuses in the first 6 months, and further in third trimester 94% of fetal responses were reported at best grade. Similarly, 94% of post-delivery infants have shown very good reflex actions and responses establishing early motor development. The study on the subject is still continuing in Jabalpur district of Madhya Pradesh State as part of UGC Major Research Project under the Principal Investigator ship of the author. **[PA-240]**

Keywords: prenatal Vedic methods; maternal; fetal health

Clinical Evaluation of the Efficacy of Kusthadi Varti and Jatyadi Taila Pichu in the Management of Cervical Erosions (Karnini yonivyapad)

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Women often ignore and delay self care as they attend to their family and children. Because of negligence towards her health, she is landing with much health-related problems. Among such health disorders, cervical erosion occupies the vast area. Almost all the gynaecological problems of modern system are covered under the blanket of term yonivyapad in Ayurvedic classics. Karnini yonivyapad is one among them, the description of which seems to be nearer to the cervical erosion. The cardinal symptom of cervical erosion is discharge per vagina. Other associated symptoms such as low backache, fatigue, lower abdominal pain, dysuria, pruritis vulva, infertility and psychological upsets may be found. Patients often visit the physician for these problems posing them as their chief complaints. Hence, to offer a safe and effective treatment which can be easily affordable for each patient, efficacy of kusthadi varti and jatyadi taila pichu in the management of cervical erosion was evaluated. Looking into the pathogenesis of the disease, it becomes clear that the treatment which is having the properties of lekhana, shodhana, shothaghana, ropana and raktashodhana can effectively cure this disease. Drugs used for the preparation of kusthadi varti and jatyadi taila pichu were having such properties. For clinical study, 30 clinically diagnosed patients were registered and were divided into three groups with 10 patients in each group. In Group 1, patients were registered and were administered Kusthadi Varti in the vagina daily for 7 days. In Group 2, patients were administered Jatyadi Taila Pichu in vagina daily during night for 7 days. In Group 3, 10 patients were administered both the above drugs. Results show that the combined use of kusthadi varti and jatyadi taila pichu was highly effective in the management of cervical erosions. **[PA-368]**

Keywords: kusthadi varti; jatyadi taila pichu; lekhana; shodhana; shothaghana; ropana; raktashodhana; Karnini yonivyapad

A Clinical Study on the Efficacy of Selected Ayurvedic Treatment Modalities in ADHD in Children

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An RCT was designed with an aim to assess the efficacy of selected Ayurvedic treatment modalities in the management of attention-deficit hyperactivity disorder in children. The hypothesis was that the specified treatment modalities can reduce the clinical manifestation of attention-deficit hyperactivity disorder (ADHD). Study was carried out in the OP Department of Kaumarabhritya, Govt. Ayurveda College, Thiruvananthapuram, during 2007–2008. Children satisfying DSM-IV diagnostic criteria and having the age of 3–12 years were included and randomly distributed into study and control groups. Study group were received (1) Kalyanakaghritha (10–20 ml/day internally) and (2) head application of Vatasini taila (Shiropichu), both for 1 month followed by (3) 3 days of nasal insufflations with Rasnadichurnam (Dhmana nasya). Control group received Kushmandaghritha (efficacy of which has been proved by earlier study) 10–20 ml/day internally for 1 month. The graded responses in both groups were assessed after treatment and follow-up, clinically, and also by using a scale based on Conner's parent rating scale for ADHD. Results showed highly significant effect ($P < 0.01$) in both the groups. Effect in trial group was significantly greater than that of control group both after treatment and follow-up. Thus, the efficacy of the specified treatment modalities, its sustained action and its superiority over the control drug was proved. **[PA-382]**

Keywords: ADHD; Kalyanaka ghritha; Vatasini oil; Rasnadi churnna; Kushmanda ghrita

Lauha-Mandoor Bhasma: an Accessible, Appropriate and Affordable Medicine for Anaemia of Adolescents and Expecting Women

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Anaemia is a most common ailment in South Asia due to improper and unequivalent economic and social dogma of this region. Moreover, adolescent and pregnant females are the prime sufferers due to lack of balanced nutrition in middle and low class of society. Ayurveda, a truly holistic system of medicine, provides answer to plight of these fellow citizens of country by offering Lauha Bhasma and Mandoor Bhasma (a therapeutically ef-

fective fine powder form of iron and its ore prepared by adopting a very specialised pharmaceutical process), as a single medicine or in the form of compound formulations, e.g. Dhatri Lauha, etc. and Punarnavadi Mandoor. We observed that these medicines namely Mandoor Bhasma and Punarnavadi Mandoor are recording appreciable and statistically significant results both in vivo and in vitro means in animal experimental studies as well as clinical studies. In our research work, we validated the intrinsic worth of these two medicines as stated in Ayurvedic classics. Details of the referred study performed at Gujarat Ayurveda University, Jamnagar, and Banaras Hindu University will be revealed during conference. Considering the facts, recently Department of AYUSH, Government of India, has incorporated Punarnavadi Mandoor and some other compound formulations of Lauha Bhasma in National Health programmes such as RCH and NHRM. **[PA-383]**

Keywords: Lauha bhasma; mandur bhasma; pregnancy anaemia; congenital malformations

Pelvic Inflammatory Disease: an Ayurvedic Perspective

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Passage of centuries has led to the development of new diseases. Many of these diseases were already mentioned thousands of years ago by our Acharyas. Pariplutha is one such condition. Pelvic inflammatory disease (PID) is emerging as a common gynecological disorder in our OPD. This condition cause great discomfort to woman in her personal as well as sexual life. PID is a clinical syndrome attributed to the ascending spread of microorganisms from vagina and cervix to endometrium, fallopian tube and surrounding structures. It is an inflammatory condition of female genital tract characterized by dyspareunia, dysmenorrhoea, purulent vaginal discharge, pyrexia and pelvic pain. Pariplutha is the same PID said by modern gynecologist. All the signs and symptoms of PID are evident in Pariplutha also. Clinical diagnosis of pariplutha is as follows: Shunaha: inflammation; Sparshsaha: tenderness; Arthi: dysmenorrhoea; Peeta asra vahini: yellowish or blood-stained vaginal discharge; Vasthigurutwa: heaviness of bladder and flanks; Athisara: loose bowels; Arochaka: loss of appetite; Gramyadharme ruk: dyspareunia; Sronivamshanaruk: pelvic pain; Jwara: Pyrexia. Early diagnosis is important as delay in the treatment can lead to infertility and other serious complications including malignancy. Treatment is purely based on dosha predominance. Good results are obtained with the following medication: Guluchyadi Kwath; Kaisoraguggul Vati; Chandraprabha Vati; Rasagandhi Mezhugu; Uttaravasti—Mahatikthaka Ghritha. **[PA-411]**

Keywords: pelvic inflammatory disease; Guluchyadi Kwath; dyspareunia

A Clinical Study to Evaluate the Effect of Vasa in Prasava

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Labour is a physiological phenomena, which occurs in all species, to achieve the goals of healthy mother and potential newborn, and great care and attention must be exercised to this critical period. Many efforts have been put forth to minimize the duration of first stage of labour in modern science. In our classics also many drugs are indicated for Sukha Prasava, among them Vasa is also having similar action. Vasa has emerged to be a promising oxytocic drug proved in animal experiment and preliminary human studies. To partially replace oxytocin, Vasa is taken for study and bring into Ayurvedic labour room to confirm its practical utility. Vasa is taken in two forms, one is vasa swarasa and another is tincture extract of Vasa. The objective of this study is to evaluate the effect of Vasa swarasa and tincture Vasa in Prasava. This is a single-blind clinical study on 30 patients. Continuous observation was done for the progress of labour (findings—Partogram). The result was statistically analysed by one-way ANOVA test and unpaired 't' test, and comparison showed significant results in the first stage of labour. To conclude, both Vasa swarasa and tincture Vasa showed good results on number and duration of contraction and dilatation in first stage of labour. **[PA-501]**

Keywords: Vasa; Prasava

Comparative Study of Shatapushpa Yogbasti and Oral Shatapushpa Shatawari Churna in Aartavkshaya

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Kaumarbhritya is one of the important branch of Ashtang Ayurved which includes detailed study of stree rog, Prasuti tantra, Balrog and all its related facts. Women's lifestyle is changing under the name of modernization. Nowadays her life has become very stressful. There are changes in dietary habits and working style along with environmental changes, leading to menstrual disorders such as Aartavkshaya, Anartava and Artavavrudhi. Among all these, Aartavkshaya is the commonest. Aartavkshaya may lead to infertility which is the genuine problem of today's life. Agneya dravyas may lead to rajpravatana, and sanshodhana plays pivotal role for doshasamyavastha. According to Kashyapa shatapushpa, Shatawari has properties such as Rutupravartini, Yonishukravishodhani, putrapada and viryakari. Shatapushpa Yogbasti may be helpful for the management of Aartavkshaya. The aims and objectives of this study are to review the detail literature of Aartavkshaya and its management from Ayurvedic aspect; to observe and study the detail drug shatapushpa and shatawari; and to evaluate the effect of shatapushpa yog basti and shatapushpa—shatawari churna. This study was conducted at M.A. Podar Hospital, Worli, Mumbai, and is a comparative type of study. Drugs used are as follows: Shatapushpa Kwath; Shatapushpa Tail; Madhu; Saindhav; Shatapushpa (Anethum Sowa); Shatawari (Asparagus racemosus). Total number of patients involved in this study is 60. Clinical trial is as follows: in Group I

comprising of 30 patients, Shatapushpa yogbasti with oral administration of Shatapushpa Shatawari churna was given. in Group II comprising of 30 patients, only oral administration of Shatapushpa Shatawari Chruna. Procedure is as follows: (1) Yogbasti—Anuvasna basti of shatapushpa Tail and Saindhav (60 ml); Asthapan basti of shatapushpa kwath, Shatapushpa tail, Madhu and Saindhav (960 ml), alternatively for 8 days. (2) Shatapushpa and Shatawari Churna will be given orally 5 g twice daily with Anupan Koshna Jal before meal (Apankal). (3) Treatment will be given for three cycles in each group. The following are the criteria for selection: inclusion criteria: (1) married/unmarried; (2) age 13–40; (3) patient suffering from all or some of the following complaint: (a) Alpartava, (b) irregular menses, (c) Yonivedana. Exclusion criteria: pregnancy; lactational amenorrhoea; arsha, fissure; diabetes; hypertension; HIV, VDRL, HBsAg patient. The result that comes out of this trial will be analysed and presented in the oral presentation. **[PA-539]**

Keywords: Kaumarbhritya; Aartavkshaya; HIV

An Ayurvedic Management of Mootrakrichhra w.s.r. to Luti in Pregnancy and Puerperium

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According to WHO's report, puerperal infections (including UTI) are important causes of morbidity and mortality for mothers in developing countries. During pregnancy and puerperium, the symptomatic infections constitute most number of visits to obstetricians and are the most common bacterial infections during pregnancy. The symptoms of lower urinary tract infections are nearer to those of Mootrakrichhra, but it has not been described among Garbhini and Sutika Vyadhis. For the present study, a total of 22 patients having symptoms of Mootrakrichhra (LUTI) were studied, who were selected from the OPD and IPD of the department of Streeroga and Prasootitantra, IPGT & RA, GAU, Jamnagar. The patients were randomly divided into two groups: Group A, totally 16 patients were studied with Brihat Dhatryadi Ghanavati, 1 tablet (500 mg); and Group B, totally 6 patients were completed with Placebo-1 capsule (500 mg) both with Shitajala twice a day for 1 month. It was observed that overall clinical improvement was better in patients of Group A than Group B. Brihat Dhatryadi Ghanavati can be a good Mootrakrichhrahara and antibacterial drug. The details of study are presented in the paper. **[PA-642]**

Keywords: UTI; Mootrakrichhra; Brihat Dhatryadi Ghanavati

Management of Common Gynaecological Disorders

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The objectives of this study are: (1) to evaluate the efficacy of classical Ayurvedic treatments in the management of common gynaecological disorders; (2) to evaluate the efficacy of yoga in the management of common gynaecological disorders and (3) to evaluate the combined effect of both Ayurveda and yoga therapies in the management of common gynaecological disorders. The combined holistic approach of both Ayurveda and yoga therapies is found to be very effective in treating gynaecological disorders. In our present day's modern lifestyle where psychological and psychosomatic ailments are on rise, women are more prone to many gynaecological disorders. Excessive stress and strain and altered lifestyle affect the functions of reproductive system, leading to gynaecological disorders such as PCOS, dysmennorrhoea, infertility and menopausal syndrome. In modern medicine, these conditions are treated with most advanced treatments like hormone replacement therapy and surgical interventions like hysterectomy. Although these treatments are very effective in providing short-term relief for the patients, complications such as osteoporosis, low backache and carcinoma are common which affects the quality of life. The alternative medicines like Ayurveda and Yoga have solutions for treating these disorders with effective medicines such as Pushyanuga churna, Lajjalu kashaya, Basti chikitsa, Pranayama and Baddhakonasana. In this study, an attempt has been made to combine the treatments mentioned in the classics to evaluate its efficacy in common gynaecological disorders. Results show that the combined therapy of Ayurveda and yoga found to be very effective in the management of common gynaecological disorders and maintaining the positive health of the patient. **[PA-697]**

Keywords: gynaecological disorders; Pushyanuga churna

Management of Cervical Erosion with Some Ayurvedic Parasurgical Procedures

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In the entire scope of surgery, healing of Vrana is the most significant entity, on which the whole science of Ayurvediya surgery revolves. Considering Dosha Dushti and location of Vrana, various surgical and parasurgical procedures are described by Sushruta—the pioneer of Surgery. Cervical erosion is a common condition seen in almost all women and in all age groups, affecting whole efficacy of woman leading to infertility. Cervical erosion is treated as Garbhasayagrivagata Vrana as it shows the features of Vrana explained in classics, i.e. Yonitah sweta srava, Katishula, Yonikandu, etc. Hence, it was decided to try and compare two main parasurgical procedures for the management of cervical erosion. The

entire study was randomly divided into two groups. In Group A, nine patients were treated with Agnikarma by Vranaaropaka Shalaka followed by Udumbar Taila Yoni Pichu. In Group B, nine patients were treated with Ksharkarma by Snuhikshara followed by Udumbar Taila Yoni Pichu. The course of treatment was 15 days for both the groups. Maximum result was found in Agnikarma chikitsita group as all symptoms were relieved and recurrence was not found significantly. Both these can be a better alternative for effective treatment in cervical erosion. **[PA-723]**

Keywords: cervical erosion; Agnikarma; Ksharakarma

Kashtartava and its Management

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Dysmenorrhoea affects 45%–85% of reproductive aged women (WHO 2005). In Ayurveda, Vayu is responsible for Kashtartava and Basti therapy is considered as the best remedy for Vatic disorders. Hence, the present study has been planned to know the efficacy of Matra Basti on the symptom complex of Kashtartava. For the present study, totally 40 selected primary dysmenorrhic patients belonging to age group of 15–25 years from the OPD and IPD of SRPT Department, IPGT & RA, GAU, Jamnagar, were registered, of which 5 patients dropped out and 35 completed the course. All patients were randomly divided into two groups: Group A (n = 20) treated with Dashamoola taila 60 ml Matra Basti for 7 days was given after cessation of menses for two consecutive cycles, and Group B (n = 20) Tila taila 60 ml Matra Basti in same manner. Both the groups had shown highly significant results on cardinal symptoms of dysmenorrhoea that is reducing severity and duration of pain as well as in all associated symptoms, but Dashamoola taila group had shown better result compared to Tila Taila group in preventing recurrences while follow-up. Hence, Matra Basti can be established as a line of treatment for Kashtartava in future. This paper presents the details of this research work. **[PA-765]**

Keywords: dysmenorrhoea; kashtartava; Dashamool Taila Matrabasti; Tila Taila Matrabasti

Role of Rasayana in Children

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Rasayana chikitsa is explained as one of the eight clinical specialities of classical Ayurveda. It includes not only drug therapy, but also a specialized procedure practiced in the form of rejuvenative recipes, dietary regimen and special health promotive conduct and behaviour. Both Susruta and Vagbhata are emphatic when they say rasayana should be given in early and growing age, as it is the period when the dhatus increases and stabilizes. If they are given more care, they can run for a long time in life. Looking with Kaumarabhritya perspective, nowhere Rasayana is specifically mentioned in bala chikitsa. Many of the drugs mentioned for lehana in the form of rasayana, namely Brahmi, Manduka parni, Triphala, Chitraka, Satavari, Trivrt, Nagabala, Pippali, etc. either in the form of swarasa, churna or Ghrita, are also similar to that mentioned for rasayana. 'Arogakalpadruma', the traditional treatise, has a systematically planned immunization schedule named 'prakara yogas' to be implemented at different ages. In this study, I have discussed about the role of rasayana in children. This paper discussed the details of this study. **[PA-853]**

Keywords: bala roga; rasayana dravyas

Syndrome-targeted Ayurvedic Management for Menopausal Health

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Diverse symptom complexes at menopausal transition and beyond are causally related to estrogen decline and insufficiency. Clinical presentation due to this estrogen deficiency may be related to symptom clusters involving different systems viz. neuroendocrine (hot flushes, insomnia, anxiety/depression, decline in memory and cognition), urogenital system (urinary frequency, dysuria, dyspareunia, laxvagina), musculoskeletal system (fatigue, joint pains, back-ache and bone pains), cardiometabolic system (weight gain, dyslipidemia, hyperinsulinism and hypertension). Outcome of Women's Health Initiative studies (WHI) for hormone replacement therapy (HRT) revealed tilting of risk/benefit ratio showing increase in breast cancer, thrombo-embolism, stroke, gall stones, etc. There is thus a wide therapeutic gap for the management of multiple menopausal health issues (MHI) after the global alarm about HRT. Medicinal plants such as Saraca asoka, Glycyrrhiza glabra, Tinospora cordifolia, Withania somnifera and Pueraria tuberosa have potential in the management of menopausal syndrome. It is thus an opportune time to develop appropriate integrated management approaches for various menopause-related health problems through reverse pharmacology path. The present paper will briefly review rationale behind specific target-related selection of medicinal plants. **[PA-928]**

Keywords: menopausal; Saraca asoka; women

Ayurveda Emphasizing Preconception Reproductive Health

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Being a mother is the most beautiful experience in a woman's life. A woman considers herself complete when she gives birth to a child. Modern health care system starts its work after conception or interferes if infertility is noticed. But Ayurvedic Samhitas emphasise the need of preconception reproductive health in each and every couple. According to Susruta Samhita Sarira 2/33, it is stated that the quality of Ritu (Ritukala, i.e. period near ovulation), Bija (seed, i.e. ovum and sperms), Kestra (i.e. female reproductive system) and Ambu (nourishing substances) ensure a good progeny. The paper will highlight the preconception reproductive health care system of Ayurveda along with preconception aahara-vihara and Garbhadan vidhi (method of impregnation). The main highlights of the paper are as follows: factors essential for conception; various pathologies associated with these factors and their possible management with Ayurveda; concept of preconception Aahara-Vihara and Garbhadan vidhi in Ayurveda; how this concept of preconception reproductive health can be incorporated in today's maternal and child health care system; Ayurveda enlightening ways to improve progeny. **[PA-1005]**

Keywords: reproductive; aahara; vihara

A Cross-Sectional Descriptive Study on the Effect of 'Sarakku and Kayam' on Breast Feeding

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A cross-sectional descriptive study was carried out on the effect of 'Sarakku and Kayam' on breast feeding. A total of 48 mothers were studied in the Jaffna district, Sri Lanka. All these mothers used 'sarakku' and 30 mothers used 'kayam' in addition to 'sarakku'. The total weight of 'sarakku' used was calculated by weighing the ingredients used by the mother on a particular day. The amount of breast milk produced was assessed indirectly from the satisfaction of the mother and the baby on feeding and from the increase in the weight of the babies who were only breast-fed during the study period. In this study, the satisfaction of the mother and the baby on feeding in association with mothers only on 'saraku' and mothers on 'saraku' and 'kayam' was not significant ($P > 0.05$). The correlation between total 'saraku' intake and weight increase in the babies in 1 month and 3 months who were only breast-fed had $P < 0.05$; hence, there is a significant correlation among these two variables. Total 'saraku' intake also had $P < 0.05$ in correlation with family income. The fluid intake above 1000 ml in association with educational level of the mother had $P < 0.05$; with the increase in the educational level, the fluid intake of the mothers also increased. **[PA-1080]**

Keywords: breast feeding; saraku; kayam

Management of Habitual Abortion

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Habitual abortion can be defined as a sequence of two or more consecutive abortions before 20 weeks; 10%–20% of all clinical pregnancies end in miscarriages, and among these 60% occur before 8 weeks. Stress and strain of the modern society, lifestyle and the dual responsibilities have increased the incidence of habitual abortions by which the present day woman is deprived of her motherhood, thereby leading to disharmony within family and society. This condition can be co-related to Putragni/garbhasrava. A total of 50 women who were confirmed positive for pregnancy by ultrasound scan and UPT with history of nonspecific habitual abortions were administered Garbhapala rasa, Shatavari ghruta, Shatavari tab, Phalaghruta, Swarna malini vasanth rasa, Bruhat vata chintamani in combination along with diet till the delivery. Of them, 50% of subjects continued the pregnancy up to full term and 20% have crossed the risk period of 20 weeks and are maintaining good health. Systematic study on a large group can help in documenting evidence-based management in habitual abortions. **[PA-1100]**

Keywords: habitual; abortion; Ayurveda

Clinical Approach of Lajjalu (Mimosa pudica) in Pelvic Organ Prolapse (Jananaanga Bhramsha)

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Lajjalu (Mimosa pudica) was found very useful in cases of uterine prolapse and in dysfunctional uterine bleeding cases. Encouraging reports led me to work on Lajjalu for more than 45 years, and I treated hundreds of such cases and hysterectomy avoided up to this date. I got few case reports supported with scanning and gynecologists' report before and after the treatment. The characteristics of Lajjalu (Mimosa pudica L.) are as follows: potency—cold; tastes—bitter and astringent; normalises vitiated Doshas—Pitta and Kapha; cures—bleeding disorders, diarrhoea and diseases of female genitourinary tract. Laxity of the vaginal musculature and fibro-muscular ligaments supporting the uterus and to certain extent vagina is the main cause of displacement of vagina and/or uterus. In other words, utero-vaginal displacement occurs due to abnormality or kshaya (loss) of Mamsa-dhatu of these structures. Modern science advises pessary, mesh and surgery at later stage, i.e. hysterectomy for dysfunctional uterine bleeding and in third degree uterine prolapse. But I used M. pudica for oral use as churna in capsule form, decoction and paste with ghrita for local application. This mode of treatment immediately stops bleeding and can overcome surgery, and thereby pelvic musculature and organs regain its strength and elasticity. Mimosa pudica can be used to prepare different forms of medications such as kwatha (decoction), churna (powder) paste (kalka) and mixed with ghrita applicative. Ghrita applicative can be used with cotton-bandage gauze to be placed tight over the affected part. Results

are encouraging, since it do not cause adverse effect or irritation on local use. Preparation of decoction, churna and paste with ghrita is easy, and hence can be prepared at home easily with little training by the physicians. Medication can be exercised at home by patients themselves without complications. To conclude, the following are the complications that may occur after surgery: anesthesia complications, hemorrhage, urinary retention, urinary incontinence, vault infection, thromboembolic phenomenon, dyspareunia, apareunia, constipation, recurrent prolapse, mesh erosion, vaginal stenosis, subfertility, premature/precipitate labor and cervical dystocia. These can be overcome using ayurvedic treatment with M. pudica. The common indications for hysterectomy were prolapse (51%) and dysfunctional uterine bleeding (34.9%). These two conditions can be easily treated with Lajjalu and hysterectomy can be avoided. In any type of utero-vaginal disorders, yoni-vyapad, snehana (soothing) and swedana (sudation) should be done followed by Lajjalu treatment. It can be used to overcome postoperative complications. Those who cannot afford surgery can go for Lajjalu treatment. **[PA-1157]**

Keywords: uterine prolapse; Lajjalu; Mimosa pudica; POP (pelvic organ prolapse) and Jananaanga Bhramsha; post-operative complications

The Efficacy of Madhu (Honey) as a Healer (Vrana Shodhana and Ropana)

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Honey (Madhu) has always been mentioned by Ayurvedic texts to be a potent healer of all types of wounds. References from the works of Honey Board, New Zealand, also prove the concept. The concept is an attractive one albeit something which is hardly ever used. A study undertaken by us in a variety of wounds ranging from infected wounds (the multidrug resistant ones too) to the non-healing varieties showed amazing results. A proper analysis of the results obtained forces us to boldly state that 'this is a drug not to be used as a last remedy but one to start with'. Dressings with honey showed that the rate of tissue cleaning (Shodhana), neo granulation formation is much better to the conventional modalities. Moreover pain during everyday dressing change is negligible owing to the non-adhesion of the dressing material, the same reason contributing to the protection of the granulation tissue from the strong damaging effects of the routine drugs. Post-healing cicatrisations are minimal or rather nil thereby no scarring. Moreover, the cost involved is the least one could think of and there is absolutely no controversy surrounding the drug used. **[PA-1188]**

Keywords: Madhu; vrana

Dushta Vrana! Complicated? Heal Easily Now

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Dushta vrana`s are wounds that fail to heal. Generally they have a fibrotic margin and a bed of granulation tissue, which may include areas of slough (necrotic tissue) and are particularly common in the lower third of the lower limb and foot. They have a number of different aetiologies often being associated with arterial or venous insufficiency or a lack of normal skin innervation. Ulcers are common in diabetes and rheumatiod arthritis treatment consists of specific management of the underlying cause and tackling of the dushta vrana either by dressing or by surgical excision of granulation tissue and split skin grafting. Bed sores are also a type of dushta vrana. The paper deals with treatment methodologies of dushta vrana. **[PA-1196]**

Keywords: Dushta Vrana; aetiologies

Research Work on the Radical Perception of 'Astrophysical' Aspect of 'Information and Communication Technology' by Means of 'Akasa Mahabhuta' as 'Quantum' and its 'Shabd Guna' as 'Quantum Information'

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The purpose of this study is to provide authenticity that 'Shabd' does not mean sound potential. 'Shabd' means 'quantum information' and 'Akasa Mahabhuta' means 'quantum waves'. Quantum information propagates by quantum waves, which later establish a 'universal communication setup' among 'particle' and 'cosmos'. The most crucial quandary is if 'Shabd' means sound potential, then how sound commence in (or from) Akasa Mahabhut? Second, there is no scientific ground for existence of gunas of Akasa Mahabhut, i.e. 'Sankhaya', 'Pariman', etc. The fraction of 'quantum physics' and 'information theory' stated in this research paper will divulge an innovative revolution in substantiating the fundamental concepts of Ayurveda more scientifically. If we examine the characteristic of Akasa Mahabhut scientifically, then we can find Akasa Mahabhut generating a 'communication setup'. This 'communication setup and information transfer phenomena' of Akasa Mahabhut consequence formation of particle structure and, furthermore, provide us answer of fundamental problems like 'From where does "mass" and "charge" appear'? What is the 'origin of time'? 'How "Disha" execute'? Akasa Mahabhut also confers the scientific elucidation behind conception of 'Satva', 'Rajas' and 'Tamas'. Results show that 'Akasa Mahabhut' means 'quanta' and 'Shabd' means 'quantum information'. Thus, we conclude that 'information and communication' is the basic unit of universe. **[PA-53]**

Keywords: Quantum; information and technology; Ayurveda

Physical and Mental Well-being: a Prima Endeavour to Seek Happiness

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30/130, Kamavisdar Niwas, Tatyapara, Raipur

Tripitaka is a rich source of proliferation towards remedial healing admixing Ayurvedic methodologies in them. This particular communication (Hydrological cycle) traces, correlates and extends the ap dhatu (bhuta) element exercised during the Premauryan to Kushan period (i.e. Buddhist literature), for water beneficiations. **[PA-473]**

Keywords: Tripitaka; hydrological cycle

Critical Study of Vishanarayaneeyum

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Toxicologists in Kerala accustomed to practice Agadtantra traditionally from centuries ago using the books other than renowned Ayurvedic Samhitas; among them Visanarayaneeyum, a tramtrika work, is very ancient and a more common one, but critical study of this book is not available yet. The inclusion of qualitative study in systemic reviews possesses separation of portion related to Agadtantra, comparative study with Ayurvedic Samhitas and find out important features regarding Visha chikitsa. Critical study of the book includes verification from manuscripts, accurate translation, comparison, word concordance study and survey-reading utility of the book. A systemic review laid perspectives of tremendous knowledge of Agadtantra. Author provides us variety of herbo-mineral preparations nearly about 450 for treatment of poisoning (327) as well as many diseases (127). He also emphases specific treatment modalities such as Mantra, Dhyana, Katha and Mudra, which were used in the case of poisoning in ancient times. On the basis of the work reported here and survey of traditional triad of Kerala, the author concludes that the book is a most useful basic text among all ancient books of Ayurved toxicology, and it lays a foundation for further research in the field of Agadtantra. **[PA-573]**

Keywords: Keraliya toxicologist; Agadtantra; Ayurvedic Samhitas; Visanarayaneeyum; Visha chikitsa

Utility of the Concept of Rakrutisamasamaveta and Vikrutivishamasamaveta Siddanta of Charaka w.s.r. to Kayachikitsa

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Although the concept of prakutisamasamaveta and vikrutivishamasamaveta siddanta of charaka samhita is having a wide applicability in the diagnosis of diseases and planning for treatment, it has not been paid proper attention. Hence, a critical study has been undertaken to make aware of its importance and application in the field of kayachikitsa. In both siddantas, combination of two or more different entities results in the formation of the end product, which may be a mixture or a compound. In prakutisamasamaveta, the resultant effect will be heterogeneous, whereas in vikrutivishamasamaveta, the resultant effect will be homogeneous in nature, i.e. when we mix shali and godhuma, we can easily differentiate those two separately. This heterogeneous mixture can be compared with prakutisamasamaveta. However, when we mix sudha and haridra, we will get a red-colored substance which is not present in those two substances. This homogeneous compound is due to the effect of vikrutivishamasamavaya. A survey has been made in the clinical texts of Ayurveda and found that acharyas have applied this concept in various instances in describing clinical features of diseases and line of treatment to be adopted. **[PA-583]**

Keywords: charaka samhita; vikrutivishamasamavaya

Management of Occupational Stress by Formulated Yogic and Naturopathic Procedures

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Stress at workplace is a relatively new phenomenon of modern lifestyles. The nature of work has gone through drastic changes over the last century, and it is still changing at whirlwind speed. It has touched almost all professionals, starting from an artist to a surgeon, or a commercial pilot to a sales executive. Yoga, which is a practical philosophy, is the best way to combat the stress at the working place known as occupational stress. The century old naturopathy is an effective and handy way to relieve stress and its related ailments. A total of 12 patients were divided into two groups; in one group patients were made to practice yoga therapy for 60–70 min/day. In the second group, six patients underwent naturopathic treatment for 60–70 min/day. The treatment period in both groups was 21 days. All patients were advised for lifestyle and diet accordingly. Finally, after the observation according to professional stress scale, the symptoms of stress were significantly relieved in yoga group as compared to naturopathy group. The study was conducted at Maharshi Patanjali Institute of Yoga and Naturopathy Education and Research, Gujarat Ayurved University, Jamnagar. **[PA-584]**

Keywords: professional stress; Asana; Pranayama; massage; mud pack

Pranayama (Breath-Slowing Techniques) Helps in Better Control of Bronchial Asthma

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Bronchial asthma is a serious public health problem throughout the world (>300 million) affecting people of all age. There is much anecdotal evidence in complementary medicine describing benefit from different forms of breathing intervention. Present study was an attempt to evaluate pranayama in patients with bronchial asthma. A total of 48 patients with bronchial asthma (PFT proven) of varying severity were given 15 min demonstration of pranayama along with their usual antiasthma medication (SABA, LABA, ICS, oral steroid). They were advised to perform pranayama twice daily for 15 min. They were then compared with a control group of 48 patients with asthma matched for age, sex and severity of asthma. Main outcome studied were number of rescue treatment/week, nocturnal symptom, exacerbation and PEF. Mean period of follow-up was 9 month. Patients practicing pranayama had to use significantly lesser number of rescue medication (2.8 vs. 6.4) and had fewer nocturnal symptoms (1.2 vs. 2.3). Reduction in steroid dose (inhaled or oral) was possible in 66% of patients practicing pranayama versus 24% in control group. No significant difference in

number of emergency room visit was found. To conclude, pranayama may help in better control of bronchial asthma and may lead to reduction in dose of steroid needed to control, thus reducing cost of therapy/side effects. Acceptability of pranayama in Indian population is excellent, but at the same time it is not widely practiced. Further research to explore the mechanism and extent of benefit is needed. **[PA-651]**

Keywords: asthma; pranayama

Outstanding Health Traditions

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Vaidyabhooshanam K. Raghavan Tirumulpad, aged 90, is a renowned scholar in Sanskrit, Ayurveda and a well-known writer. Tirumulpad has multiple facets. Physician: He is a rare vaidya who combines in himself the best of theory and practice, traditional scholarship and contemporary medical knowledge. He has developed his own parallel treatment style based on 'Patya' and 'Apatya' and on the basic principles of Ayurveda, giving importance to the concept of 'Agni' and 'Roga Marga'. Academician: He contributed to the theoretical advancement of Ayurveda through original writings and treatises enriched by a deep understanding of Indian philosophical systems. Moreover, a much revered guru to generations of Ayurvedic practitioners all over Kerala and outside. Author: He has done significant contributions to Ayurvedic literature through original books, treatises, commentaries and translations. He has written several books on Ayurveda, philosophy, politics, literature and ethical living. Gandian: In ideology and life style, active in hindi propagation, khadi movement and sarvodaya. **[PA-655]**

Keywords: Tirumulpad; Ayurveda

Haramekhala: a Fragrance on Aromatics

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Haramekhala is a special masterpiece on different aspects of human requirements of ancient times. The author of this work was Mahuka, who lived at Chitrakuta dated ninth century AD corresponding to Vikrama shaka 887. Themes like inducement of different health problems to enemies, treatment of animals, disease and treatments of human beings, various fumigations, many cosmetic preparations, etc. were dealt in this work. The fifth chapter of the book throws light on various aromatic preparations such as fragrant oils, powders, fumigations and āsavās which can be used for aromatherapy. In Ayurvedic classics, we find some of the references regarding aromatics. Sushrutha mentions fumigation with certain drugs which are having fragrance in vranitāgāra and in vrānās. Charaka also mentions some of the powders for massaging the body which eradicates the bad smell. However, the descriptions are less cited in the classics. Regarding this concept, Haramekhala gives

many preparations using drugs such as kushta, kesara, usheera, agaru, gandhapatra, twak and dhataki. Thus, we can rightly place Mahuka as the 'Father of Indian Aromatics'. In the present topic, we are elaborating in detail about the ancient Indian concepts pertaining to aromatics. **[PA-670]**

Keywords: Haramekhala; Ayurvedic; āsavās

The Secret of Living without Food

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'In the beginning was the Word, and the Word was with God, and the Word was God.' These are the eternal words of Jesus Christ that explain the whole genesis of creation. 'When no goblin nebulae breathed and glided in the space body, when no fire-eyed baby planets opened their eyes in the cradle of space, when no star-rivers ran across the tracts of infinite space, when the ocean of space was unpeopled, uninhabited by floating island universes...when the little ball of earth with its dollhouses and diminutive human beings did not exist, when no object of any kind had come into being—Spirit existed.' The word that is the beginning and source of all created substances is cosmic vibration imbued with cosmic intelligence. Thought of matter, energy of which matter is composed, matter itself—are but the differently vibrating thoughts of the spirit. The revelatory advances in what theoretical physicists call 'superstring theory' are leading science towards an understanding of the vibratory nature of creation. According to Professor Brian Greene of Cornell and Columbia Universities, the theory suggests that the microscopic landscape is suffused with tiny strings whose vibrational patterns orchestrate the evolution of the universe, and that the length of a typical string loop is about a hundred billion times smaller than an atomic nucleus. Although the scientists have ultimately come to agree to the perennial scriptural truth that there is only one fundamental ingredient behind all the creation—Sabda Brahma, yet they might be many billion light years away from reaching the Word, so to say. From the foregoing discussion, it can be safely concluded that the five elements of creation—earth, water, fire, air, ether—on which our whole physical existence depends are but the differently vibrating energies from the same fundamental ingredient 'the Word'. For millennia, we have been depending more heavily on grosser elements viz. food and water than on much subtler elements of air and cosmic energy. Through appropriate yogic techniques and realization of the reality, human beings could enjoy freedom from food and live more blissfully in Spirit! **[PA-822]**

Keywords: Spirit; living; food

Influence of Clinical Yoga Packages on Glycemic Control in Impaired Glucose Tolerance

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Diabetes is considered as a disease for affluent people since time immemorial. Today through the advancement of technology, tremendous changes are taking place in human beings. These changes in turn made majority of the population sedentary even in developing country. In addition to that, changes in lifestyle attributed a lot of stress and over nutrition. The multiple factors in modern era made diabetes one of the most prevalent diseases in the world. Accepting the need of lifestyle modification as a key theme for managing diabetes, many trials are undergoing to verify the efficacy of exercise, dietary modification, stress management, health awareness programs and yoga. The present study is an effort to evaluate the efficacy of multidimensional approach of clinical yoga modalities in impaired glucose tolerance. The study was conducted at Clinical Research Institute of Yoga and Ayurved (CRIYA) in V.P.S.V. Ayurveda College Kottakkal in Kerala during 2000–2009. Participants whose blood glucose level was above 160 mg/100ml were selected for the study. A total of 148 (25 women and 123 men) participants were selected as per the inclusion criteria. They were participated in 12 different camps conducted for the period of 15 days under the guidance of expert yoga teachers. The training of clinical yoga packages includes Asana, Pranayam and Shuddikriya Diabetes education classes. The program was for 3 h for 15 consecutive days. The OGTT was used as assessment criteria. OGTT was done on the first and last days of the camp. The analysis of data was made using paired t-test. When mean fasting score before and after yoga camp was compared, difference absorbed were 1511 with mean difference of 10.20, standard deviation of 34.14 and t-value of 3.63. The result is highly significant. When half an hour score compared before and after yoga camps, difference absorbed was 1986 with a mean difference of 13.41, standard deviation of 66.71 and t-value of 2.44. Result is significant at 5% level, and when 2-h score was compared before and after yoga camps, difference absorbed was 2578 with mean difference of 17.41, standard deviation of 74.44, t-value of 2.84, and result is significant at 1% level. To conclude, the analysis of result gave the impression that 15 days practices of selected asana pranayam and meditation along with 1 day shudhikriya are found to be significantly reducing glycemic index. **[PA-891]**

Keywords: clinical yoga; impaired glucose tolerance; OGTT

Physiological Concept and Therapeutic Effects of Yoga: a Novel Horizon

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Regulation of prana through scientific application of yoga is a 'self-healing technique' by itself and also supports curing ailments by medicinal application in Ayurveda. Pranic flow in the disease-affected area gets distracted. In chronic cases, it gets blocked, thus re-

ducing action of medicine. By yoga therapy, sufficient amount of Prana Sakthi is directly supplied to the disease-affected region, thus curing the ailment. In asthma, imbalance in Samanavayu distracts Pranavayu, whereby temporary severe wheezing arises. Here diaphragm is pressurised by vayu, and thus lower lobe of lungs is compressed causing respiratory irritations. Asthma caused by food, etc., gets cured, when Samanavayu is balanced by yoga including Pavanamukthasana and Ardhamatsyendrasana. Asthma by nasal/respiratory tract allergy is purely a psychosomatic disease arising due to over-sensitiveness. Kriyas like Nethi brings de-sensitisation, and immunity power of nasal/respiratory tract is enhanced by Anuloma-Viloma Pranayamam. Cardiac problem with 90% coronary artery blockages was treated with a standard set of yogic breathing exercises. The result within 3 months found in angiogram test was as follows: 40% blockage removed and a bunch of new collateral veins started supplying sufficient blood to the heart muscles. Physiological research viewed through Pranic flow will unveil new horizon in treatment, reducing medication. **[PA-893]**

Keywords: asthma; cardiac problem

Memory Loss in Geriatric Age and its Prevention through Yogic Life Style

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Globally, as of now, 10% of the world's population are elderly persons and it is expected to increase to 21% in 2051. In absolute numbers, it is likely to increase from the current 600 million to 1.97 billion in 2051. India is the second largest country in the world, with 76 million elderly persons above 60 years of age as of the just released 2001 Indian census. Several factors cause ageing brains to experience changes in the ability to retain and retrieve memories: when memory loss becomes so pervasive and severe that it disrupts work, hobbies, social activities and family relationships, it may be experiencing the warning signs of Alzheimer's disease, another disorder that causes dementia, or a condition that mimics dementia for geriatric. Memory loss can be prevented through yogic lifestyle. Memories are not just important for our daily lives, but they are what define us and make us who we are. Meditation and yoga are the two words that are very often used interchangeably and for good reason. No other health regimen gives so much importance to meditation. No other health regimen gives so much importance to meditation. Yoga is a wholesome discipline that focuses on bodily, emotional and spiritual health equally. It also recognizes the importance of balance and harmony between the three and strives to achieve this balance through the practice of physical poses, breath techniques and meditation. In addition to this, yoga stimulates and enhances the functioning of the various internal organs, boosting our overall health. Ageing can be healthier with an exercise regimen like yoga, which prevents accumulation of stress metabolites and always keeps the physiology supple. This paper lays emphasis on ageing and disease dictated by memory loss, postures for anti-ageing and rejuvenation; correct thinking and control ageing; yoga that slows the ageing process and prevent memory loss; anti-ageing or staying young benefits of yoga; and yoga for life.

Keywords: memory; yoga; meditation; ageing

Sarvadarshanaparishad: Ayurveda

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Ayurveda is based on Shad Darshana, the six philosophies of life, which developed from the ancient sages and scriptures of India. Shad Darshana is the six systems of Indian philosophy, such as Sankhya, Nyaya, Vaisheshika, Mimansa, Yoga and Vedanta. The six visions of life are a way of orienting with reality. Ayurveda is also a follower of Boudha and Darshanas. Sankhya: various references such as shrushti utpatti of Charka and Sushruta are similar to Sankhya. Yoga: pranayama of Yoga Darshana is described in Hikka chikitsa by Sushruta. Nyaya: the 16 elements of Nyaya Darshana are described in samhita as 'Vadamarga' and 'Tantrayukti'. Vaisheshik: Pilupakvada and Parmanuvada can be explained by Ayurveda. Purvamimansa and Uttarmimansa: Karmavipakvada is accepted by Ayurveda, similarly Kshanabhangurvada of Boudha can be described as 'Sheeryate tat Shariram'. The aim is to study the relationship between Darshana and Ayurveda. The objective of this study is to explore Darshnik siddhanta in the way of Ayurveda. Details of the relationship between Ayurveda and Darshana will be explained at the time of full paper presentation. **[PA-991]**

Keywords: Darshana; Ayurveda

Efficacy of Yoga in the Management of Obesity in Women

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The present study was conducted to find the factors associated with the development of obesity in urban women (30–40 years), as well as to assess the efficacy of yoga in the management of excess weight in a subsample of subjects. Body mass index (BMI) was used as the criterion for selection of the subjects. Background information was collected by questionnaire-cum-interview method. Dietary intake, anthropometric measurements, fasting serum glucose and lipid profile of the subjects doing and not doing yoga (control group) were determined before and after 3 months of study period, using standard methods. Results indicated that besides excessive intake of energy and most nutrients, sedentary life style, heredity, marriage, pregnancies and hormonal problems were some of the causes of weight gain in the subjects. Practice of yogasanas resulted in statistically non-significant reduction in anthropometric and blood parameters of the subjects. However, the percentage of reduction in weight, BMI, average of four fat-folds (triceps + biceps + subscapular + suprailiac) waist and hip circumferences, per cent body fat and lipid parameters (except HDL-C) were significant ($P \leq 0.01$) in comparison with the control group. Thus, yoga was found to be moderately effective in the management of obesity on short-term intervention. **[PA-1105]**

Keywords: obesity; body mass index; yogasanas

Ayurveda and Yoga

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Ayurveda has always believed in holistic healthcare. Yoga is an integral part of Ayurveda but Ayurvedic practitioners in general tend to ignore simple and yet highly beneficial therapeutic yogic practices in treating common ailments. Yoga is a practical and successful tool in the management of many common ailments and should be used more often by the Ayurvedic practitioners to obtain quicker and longer lasing relief from a wide range of conditions. It is very helpful in eliminating stress, reducing anxiety, improving health, maintaining youthfulness and clarity of mind, stimulating creativity, developing inner tranquillity. It results in better memory, better balance, good blood circulation, increased breath capacity and relief from depression and moodiness. Yoga can help people of all ages by gently changing the brain chemistry.

Keywords: Yoga; Yoga nidra

The Co-creative Interplay of Yoga and Ayurveda

Gurudev Shri Amritji (Yogi Amrit Desai)

Just as the purpose of yoga is self-realization, the practice of Ayurveda is designed for Swasthya. This is self-healing at the innermost core of your being. It is attuning to the restorative, regenerative source of prana, the life force. Emotional reactions, which are in perpetual conflict with life situations and relationships, are the hidden causes of more than 85% all physical, mental and emotional diseases we face today. Once you restore your connection to the Source, the natural pharmacy within the body produces self-healing hormones and pain killers, such Serotonin, Melatonin and Endorphins. This reconnection has the potential to perform miracles in healing stress-related anxiety, depression, insomnia and chronic fatigue. The cause of disease remains buried in the unconscious part of our karma body. Yoga and Ayurveda go straight to the root of physical, mental and emotional problems that manifest as symptoms. In reality, they are the 'effects' of the 'cause.' Amrit Yoga and Ayurvedic techniques are designed to dismantle behavior patterns that prevent you from tapping into the infinite power of Self, the ultimate self-healer within. The moment physical, mental and emotional blocks are removed, the healing power of prana is unleashed to restore balance, harmony and spiritual unfolding.

Keywords: Amrit Yoga; prana; Swasthya

Āyurveda, Past vs. Future? The Necessity of Textual Research

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The realities of modernity confront Āyurveda scholars with difficult questions: How shall one deal with the authenticity and indisputability of ancient classics traditionally attributed to Divine Sages in the times of Internet, microbiology or genetics? Do the Sa□hitās contain the complete knowledge concerning the body and diseases and haven't they ever changed since the beginning of their existence? How shall one accommodate precise clinical data within the rigid frame of antiquity? etc. These questions gain a particular actuality in view of extinction of traditional scholarship that was upholding the living transmission. Younger generations of students prone towards dynamic biomedical approach and dismiss "outdated" inflexibility of the past. However, this seemingly rigid picture is far from being objective. Celebrated Āyurveda historians made the first steps towards a study of the ever-changing creative character of its fundamental principles that has provided this medical system with a great adoptability. The study of the dynamic component in texts, which is as vibrant for the progress of Āyurveda as clinical research and archiving, can be approached by means of textual criticism. This paper introduces the basic principles of this science and argues its vitality for the future of Āyurveda.

Keywords: Textual Criticism, Textual Research in Āyurveda, Manuscriptology, History of Āyurveda, The Future of Āyurveda

SECTION B
Abstracts selected for poster presentation

Contribution of Traditional Medicine: Dashapushpa in Cancer Management

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Cancer is one of the most dreaded diseases of the 20th century and spreading further with continuance and increasing incidence in 21st century. An integrated approach is needed to manage cancer using the growing body of knowledge gained through scientific developments. Thousands of herbal and traditional compounds are being screened worldwide to validate their use as anti-cancerous drugs. Ayurvedic samhitas did not exposit cancer but acharyas explained some diseases like Garanthi, Arbuda, Apachi, etc. which represents cancer like symptoms. Same diseases are key out while explaining the Jamgham visha lakshana. In view of that, there must be some relation between symptoms of cancer and Visha lakshana mentioned in classical texts. For that reason, Visha chikithsa can be useful while dealing with the cancer, especially Dashapushpa the most popular medicine of visha chikitsa at Kerala. Dashapusha has been used by traditional vaidyas of Kerala in visha chikitsa which shown promising outputs while tackling with different types of cancer. Hence, an attempt is made in this presentation to draw the attention of Ayurvedic research institutes and scholars to the Dashpushpa, to comprehend the role of Dashpushpa in cancer management.

Keywords: Dashapushpa; Visha chikitsa; cancer management

Apoptosis: Ayurvedic Approach

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The demise of cells by programmed cell death referred to as apoptosis, this is a well-defined sequence of morphological changes of cells that shrink and condense and then fragment, releasing small membrane—bound apoptotic bodies, which are phagocytosed by other cells. Importantly, the intracellular constituents are not released into the extracellular milieu where they might have deleterious effects on neighboring cells. HHARL 009–Proapto made out of Arjuna, Kalmegh, Goksura, Kokum, Manjista, Gugulu, Yestimadhu, etc., used in the management of Breast Cancer, Cancer Stomach, Multiple myeloma, Acute Lymphoblastic Leukemia. Patients having the above-mentioned diseases are given HHARL 009–Proapto along with HHARL 008–Prostem to trigger stem cell production simultane-

ously for a better management. This treatment helped the patients not only in managing the cancer, but also in reducing the adverse affect of chemotherapy. **[PO-550]**

Keywords: apoptosis; cancer; Ayurvedic herbs

Neuroimmunomodulation in Medical Oncology: application of Psychoneuroimmunology with Ayurvedic Herbs and Pranic Healing

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Cancers in all forms are causing about 12% of deaths throughout the world. In the developed countries, cancer is the second leading cause of death accounting for 21% (2.5 million) of all mortality. In the developing countries, cancer ranks third as a cause of death and accounts for 9.5% (3.8 million) of all deaths. Although various treatments are available for cancer like chemotherapy, radiotherapy, immunotherapy, but still cancer is increasing day-by-day .This is because of dreadness of disease as well but also due to ignoring certain factors like quality of life of cancer patients, stress to cancer patient, side effects of available conventional treatments. Ayurvedic science can do a lot in this case by supporting the already existing conventional treatments. The cause and development of cancer are multifactorial with diet, tobacco, alcohol consumption, occupational/environmental exposure to carcinogens, radiation, infections (viral) genetic; sexual and reproductive factors play a key role. However, the exact reason and process of cancer formation and metastatic spread is not clearly understood even today. Cancer is more often a psychological diseases with respect to both its etiology and its onset. The concept that cancer is related to stress and a spectrum of emotional factors is probably as old as the history of recorded medicine itself .With all diseases including cancer, the first objective is to understand that the cause is through your own guilt or harmful thought and feeling created by you upon yourself. Over time, the negative energy blocks from the emotional and mental finally flow into the physical body. Very few understand that the cause of all issues in the physical body in the energetic bodies and not in the physical layer. To heal from cancer or other such diseases, one must fully cleanses the physical, emotional and mental layers of your system. Thus, ayurvedic herbs and pranic healing can be used for intervention in cancer cure. **[PO-1059]**

Keywords: cancer; neuroimmunomodulation; psychoneuroimmunology

Preventive Measures for Mental Disorders w.s.r. to Brihattrayi

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'Sharira' and 'mana' have been given equal importance in Ayurveda 'shariramapi sattvamanuvidhiyate, sattvam cha shariram' (cha.sha.4/36).'mana' is one of that tripod on which this world sustains 'sharira' and it is considered as the substrata for both diseases and health. In the present era, due to the effect of various factors like non-judicious indulgence of 'trividha-purushartha'(dharma, artha, kama), increasing desires (upadha), ahareeya hetu (raja-tamovardhak ahara and viruddhanna) and changing lifestyle, incidence of mental disorders increasing continually. All diseases are basically psycho-somatic (cha.sha.4/36) but it may remains in either way for time beings. So in all disorders mental counselling is essential. In the treatment of diseases, both the parameters ('sharirik' and 'manasik') are counteracted according to the merit. 'Nidanparivarjan' has described as basic treatment but it is impossible without 'sattvavjaya' of that patient. Mental disorders can be effectively prevented with 'sadvritta-palan' (cha.su.8, ast.hri.su.2), 'daiva-vyapashraya vidhi', 'naishthiki chikitsa'(cha. sha.1), 'ahareeya chikitsa', and 'achar-rasayan'. Details of this study are presented in the paper. **[PO-50]**

Keywords: mental disorders; Sharira; mana

Role of Vaman, Virechana and Laghu Mangisthadi Ghan in Management of Psoriasis

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Skin is an envelope of our body. It is the first and largest organ of body interacting with environmental agents. Due to rapid increase in pollution, skin problems are tremendously increased. Psoriasis is a common skin disease affecting nearly about 80 lakh people only in India. It is papulosquamatous disorder of skin characterized by sharply defined erythamatous lesions. Some believes that it is autoimmune in nature and psychological stress is a trigger factor. Modern medicine offers treatment with PUVA, corticosteroids and antimitotic drugs. But therapy gives serious side effects like bone marrow depletion, liver, and kidney failure. Symptoms of psoriasis show resemblance with Mandal Kustha while treating Kustha Ayurvedic Classics especially focused on Panchakarma treatment. So Vaman, Virechana

viz are Biopurifacatory methods, and Laghumangisthadi Ghan was selected for trial. A total of 30 well-diagnosed patients were selected and divided into two groups. One group receiving Ayurvedic Treatment and other Allopathic Regimen (Tb. Methotraxate) for 2 months, and comparative study was done. Significant results were obtained in PASI score; itching and burning score. Details of trail are presented in the paper. **[PO-221]**

Keywords: Methotraxate; PASI score; PUVA; Vaman; Virechana

Effect of Bakuchyadi Lepa and Jalauka Therapy on Shvitra

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Shvitra is mentioned along with other types of kustha. The symptom of the disease is extensive discolouration of skin. Shvitra as not a disease of modern times but has caused a lot of difficulties to human being since a long time. The effects are observed more on human mentality and social relations than on human body. The aim of this paper is to observe the comparative effect of Bakuchyadi lepa only and lepa with Jalauka therapy based on information given in ancient ayurvedic text. Trial group: Bakuchyadi lepa with jalaukavacharan for 10 patients. Control group: Bakuchyadi lepa for 10 patients. Study Design: Randomized controlled clinical trial. The results and conclusions are presented in the paper. **[PO-320]**

Keywords: Shvitra; Bakuchyadi lepa; Jalaulkavacharan

A Clinical Trial to Evaluate the Role of Punarnavadi Guggulu Yog and Kshabasti in Management of Amavata w.s.r. to Rheumatoid Artritis

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Joint disorders are a vital and disturbing problem all over the world. Rheumatoid Arthritis is the most disastrous among all joint problems. Intensity of the disease is so severe that it affect nearly about all the joints of body and man become helpless to do his daily works. As the incidence of R.A. is more common in middle age, it becomes a major cause of disability in man's life. Symptoms of Amavata closely resemble Rheumatoid Arthritis. Unlike modern science which offers only symptomatic treatment Ayurveda aimed at treating basic cause, i.e. vitiated Ama and Vata. So a clinical trial aiming at to find economic, effective and safe treatment was held. A total of 60 patients showing classical symptoms of R.A. as per American Rheumatism Association and Amavata as per Ayurvedic classics were selected

and divided in three groups: first one receiving Punarnavadi Guggulu Yog (containing Punarnavadi Guggulu + Sameerpannag rasa + Godandi Bhasma), second one was Ksharbasti group, and the third group both Yog and Basti was administered, and comparative study was done. Assessment was done on improvement in symptoms as well as laboratory parameters. Highly significant results were obtained in Joint pain, swelling, and joint stiffness showing the efficacy of Punarnavadi Guggulu Yog and Ksharbasti. Details are presented in the paper. **[PO-422]**

Keywords: Ksharbasti; Punarnavadi Guggulu Yog

Significant Role of Dushivisha Chikitsa as Preventive Medicine in Chronic Skin Diseases

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According to Sushruta, Dushivisha is 'yat sthawar jangam krutrimam va dehadsheshh yadnirgatam tat' (su.kal.2\25) that means, any poison after exposure remain inside the body with some favorable conditions like dushit desha, kala, anna, diwaswapna, etc. which vitiate different dhatus producing various dhatupradoshaja vikara. With the change in the life style of modernized man, risk of getting exposure to poisons like Garvisha and Dusivisha also increases which includes pollution of water, land, air, alteration of lifestyle such as day sleep, eating of preservative and chemicals mixed foods, milk, fruits, carbonated cold drinks, adulterated grains, etc. Our interest to apply the concept of Dushivisha chikitsa as preventive medicine in different chronic skin diseases like psoriasis, urticaria, etc. which are aggravated during shita kala (winter) and durdin (rainy season) which are the aggravating periods of Dushivisha. As Charaka mentioned that 'Dushivish tu shonitdushtyarukitibha koth linga cha | vishamekaikam dosham sandushya haratyasunevam' (cha. Chi.23/31) Dushivisha vitiate all three dosha along with Rakta dhatu specially which are the main pathological factors for kushta (skin diseases). There are certain manifestations like vaivarna (discoloration), mandal (different skin lesions), kushta (various skin diseases) are described as symptoms of Dushivisha. Considering significant role of Dushivisha in this, Dushivisha chikitsa will be proved as a good preventive medicine in chronic skin diseases along with some life style changes. **[PO-446]**

Keywords: Dushivisha; chronic skin diseases; Dushivisha chikitsa

A Case Study of Vatarakta *vis-à-vis* TAO and its Management with Manjistadi Kshara Basti

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Vatarakta is the condition in which the aggravated vata is being obstructed in its course by the vitiated Rakta, the excessively aggravated vata vitiates the entire Rakta. TAO is a condition characterized by occlusive disease of the small- and medium-sized arteries, thrombophlebitis of superficial or deep veins, and Raynaud's syndrome occurring in male patients in a young age group. Clinical presentation of two diseases show striking similarities though the pathophysiology is described differently in Ayurveda and modern surgery. There are no specific treatment except abstention from tobacco, Arterial bypass, local debridement, antibiotics and amputation. The prognosis is worse and the results are discouraging. Ayurvedic principles of srotoshodhana and Raktaprasadana provide the theoretical basis for the treatment of peripheral ischemia. Therefore, a case study has been done using a course of manjistadiksharabasti in a patient with TAO. There was significant improvement after treatment in peripheral pulses, skin changes, and claudication. This thereby has potential for further more rigorous evaluation, including Doppler studies. **[PO-601]**

Keywords: Vatarakta; TAO; Bastikarma; Srotoshodhana; Raktaprasadana

Effectiveness of Rasona Kshirpaka (Internally) with Rasona and Sunthi Churna Lepa in Amavata (Rheumatiod Arthritis)

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Rheumatoid Arthritis (Amavata) is a well-known auto immune disease which do not have any specific treatment in modern science, so effort is made to give relief to patient by alternative medicines. Garlic (Rasona) and Sunthi being anti-inflammatory, analgesic and improve circulation, so used in this project. The aim of this paper is to study the effectiveness of Rasona Kshirpaka (internally) with Rasona and Sunthi Lepa in Amavata (Rheumatoid Arthritis). A total of 15 patients who were diagnosed as Amavata (RA) were selected and treatment was given for 1 month. Result will be discussed after statistical analysis, unbiased at the time of paper presentation. **[PO-693]**

Keywords: Rheumatoid Arthritis; sunthi; Rasona; Amavata

A Clinical Study on the Role of Tarkeshwar Ras and Trikatu Gutika with Basti Karma in the Management of Madhumeha w.s.r. to Diabetes Mellitus

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Today, the life pattern of human beings is changing. Incurable and chronic diseases have increased in the world because of irregular diet pattern and urbanization. As per the record of WHO by the year 2030 nearly about 350 million people will be suffering from diabetes. On clinical manifestation, Madhumeha can be correlated with Diabetes Mellitus, which is the most common endocrine disorder marked by high levels of blood glucose resulting from mainly insulin insufficiency. Madhumeha is one of the types of Prameha as per Ayurvedic classics. In treatment of Madhumeha katu, tikta, kashay ras is predominantly indicated. So Trikatu gutika, which contains Trikatu, Triphala Guggulu and Tarkeshwar Ras containing Rassindur, Vanga bhasma, Abhrak bashma, and Lauha bhasma was chosen for trial. As Madhumeha is Vataj type of Prameha, so Panchatikta panchprasitik basti described by Charak in treatment of Madhumeha was selected. A clinical trial was done on 50 clinically diagnosed patients. Group 1 received Tarkeshwar ras, Group 2 received Trikatu gutika, and Group 3 Panchtikta panchprasitik basti. A comparative study was done. The paper discusses the significant results of this study. **[PO-740]**

Keywords: Tarkeshwar Ras; Panchtikata panchprasitik basti

Efficacy of Nimba Taila and Manjistha Churna in Non-Healing Ulcer

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The aim of this paper is to evaluate the efficacy of Nimba taila and Manjistha churna in non-healing ulcer. Wound management is a challenge to the surgeons. Since vedic period, still there is no perfect remedy for the armamentariums of western medicine. While reviewing the Ayurvedic text, we found so many indigenous source in the form of taila, churna, lepa, etc. These remedies were used by ancient surgeons effectively. Keeping in view of these claims and references, we have planned to evaluate some of them (Nimba taila and Manjistha churna) for the management of non-healing ulcer. The patients attending wound clinic of Sir Sundar Lal Hospital, Institute of Medical Sciences, BHU, with non-healing ulcers of more than 6 weeks duration were included. A total of 60 patients were included in which 20 patients will be treated by local application of Nimba taila (in Group-I), 20 by external and internal application of Manjistha churna (in Group-II) and 20 by the use of both drugs (in Group-III). Patients were followed up at 15 days interval and the wound (wound measurement and other findings) was examined. Some patients were admitted in

the ward for proper wound care. Maximum duration of observation was 6 months. Healing time was measured in weeks and percentage of healing was noted as percentage of epithelialization. The two drugs were used as follows: (1) Nimba taila: Azadirachta indica seed taila was applied after washing the wound by normal saline. (2) Manjistha churna: The Yavakuta (coarse powder) of root of Manjistha was given to the patients and they were directed to make decoction of 250 mg of drugs in 4 l of water till the content reduced to one fourth, i.e.1 litre. It was filtered through fine and clean cloth. Patients of non-healing ulcer were advised to dip the affected foot in lukewarm decoction (37–40°C) for 45 min. The affected part should be dipped fully in decoction. After this, the foot ulcer was dried with sterilized gauze pieces and dressed. During the process of treatment, there were two criteria: (1) Pretreatment: It includes examinations and tests like: (a) Swab culture, (b) Nutritional status by using TC and DC, (c) LFT, (d) Serum Iron content, (e) Biopsy and (f) Blood glucose. (2) Post-treatment: (a) culture sensitivity repetition, (b) weekly biopsy, (c) synthesis of Hydroxy prolene and DNA during wound healing by the use of both drugs. The Manjistha churna and Nimba taila are very effective in cases of non-healing ulcer. **[PO-940]**

Keywords: Nimba taila; Manjistha churna; non-healing ulcer

Arsha Treatment with Synergism of Ayurvedic Formulation and Ashwani Mudra (a Clinical Study)

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Arsha is a painful and troublesome condition. A large number of people are suffering from this disease. Traditional Ayurvedic formulation is given to patient. Ashwani mudra is very easy to practice. I have chosen both Traditional Ayurvedic formulation and Ashwani Mudra for clinical study. The Study includes 20 randomly selected patients from OPD/IPD of GACH , Patna and divided into two groups. Group A: Patients were given only Ayurvedic formulation like Arsha kuthar ras, Triphala Guggulu, Arogyavardhani vati, Abhyarista. Group B: Patients were given Ayurvedic formulation like Arsha kuthar ras, Triphala Guggulu, Arogyavardhani vati, Abhyarista and advised to exercise Ashwani Mudra 50 times in a day. Symptomatically relief in Group A result is >70% and in Group B result is >85%. Statistical data and details are presented in the paper. **[PO-943]**

Keywords: Arsha; Ayurvedic formulations; Ashwani Mudra

Dushivish and Skin diseases

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Today's life is far from the law of nature. Use of intoxicating beverages, canned food, irregular eating and sleeping habits, usage of various synthetic drugs have taken modern man to a world, where immunity is declining day after day and many diseases are evolving. The immune system, which is one of the most complex and intriguing system of the body, declines when the body is formed of unwholesome (toxic) substances (dushivisha) and then the body attempts to eliminate these toxins. One of the routes of elimination of the unwanted product is the skin, so manifestation of skin disease occurs. Ayurved provides us with detailed information about toxins, their management and methods of purging these poisons out of the body. The concept of Dushivisha w.s.r. to allergic skin disorders are clearly mentioned in Charaka Samhita, Sushruta Samhita and other ancient ayurvedic texts. Some of the skin problems caused by Dushivisha which are described in Samhitas are kustha, visharpa, bhinna varna (discoloration of skin), shonit dushti (Ch. Chi. 23/31), oodarda and koth. The cause of all these diseases is dushivisha which is enhanced by indulgence in unsuitable foods produced by the toxins formed which can be correlated with allergic disorders. **[PO-23]**

Keywords: Dushivisha; skin diseases; immunity

Permissible limits of Minerals in Human Body

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Normally human beings body contains minerals in certain limits. It is natural and helps to maintain the normal body mechanism, but if the level of these minerals exceeds above normal level, we called it as mineral toxicity. And it is harmful to body systems. Ayurvedic Rasaushadhis contains the minerals. There is a blame on Ayurvedic medicines that they cause metal toxicity. But if we know the normal permissible limits of the minerals in body, then it is helpful to Ayurvedic practitioner to give the proper dose of these rasaushadhis according to the need of body and helps to maintain the normal body mineral mechanism. Present Poster gives normal guidelines for permissible limits of minerals in body, which is really very helpful to all Ayurvedic practitioner. **[PO-34]**

Keywords: Name of minerals in body; Permissible limits of minerals in body

Outstanding Health Tradition: use of Dashapushpa in various Keraliyan Tradition

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Kerala has a strong tradition. As per archaic tradition, people of Kerala make use of Dashapushpa, i.e. a group of ten flowering plants in various traditional customs as they believe that these Dashapushpa have properties like Jwarahara and Vishahar. Although Dashapushpa were used from ancient time, the scientific study has not done until. So many useful properties of these plants are unexplored. To explore these areas, systematic study is essential. The qualitative study in systemic reviews possesses literature study, Pharmacological study and survey regarding the use of these Dashapushpa plants. The plan of work includes identification and verification species according to different texts, assessment of physico-pharmacological action of each plant of Dashapushpa and survey regarding the utility of these plants in various customs present in Kerala. Dashapushpa having of great account in various customs of Kerala as they are used for the worship of God, Keraliyan ladies wear these during Karakatakmasa (i.e. July to October) and also they used to drink decoction everyday in Karakatakmasa, which contains mainly Dashapushpa. They believe that, if Dashapushpa are use in such a manner it will act as an antidote of Snake bite nearly about next ten years. **[PO-40]**

Keywords: Dashapushpa; Jwarahara; Vishahar; Karakatakmasa

Arogyawardhini Vati: one Perfect Solution for all types of Skin Diseases

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Skin diseases are one of the major health problems in today's era. According to modern science, skin diseases may be due to autoimmune origin, infectious or due to toxins (chemical or biological toxins). In Ayurveda, skin is the major site for Pitta dosha. Therefore, in any type of skin disease, the dysfunctioning of Pitta dosha is common point. The arogyawardhini vati is specially indicated for 'Kushtha roga'. Here, the term Kushtha roga represents all types of skin diseases. The main content in arogyawardhini vati is Kutaki (Picrorrhiza Kuroo), which is the best treatment for Pitta dosha, other contents like Parad (mercury), Gandhak (sulphur), Loha (iron), Abhraka (mica), Tamra (copper) and Triphala not only help to neutralise the toxins but also help to maintain the normal functioning of immune system and thus help to cure autoimmune conditions. Although the other measures like Panchakarma are also valuable, but the common drug is arogyawardhini vati. Here is an attempt to show the importance of arogyawardhini vati in the form of poster. **[PO-42]**

Keywords: Arogyawardhini vati; Skin diseases

Evaluation of the Efficacy of Mashataila Nasya, Abhyang in Avabahuka

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Ayurveda is the science of life, not only deals with the prevention of diseases thereby maintain the health, but also the alleviation of diseases. Ayurveda has given unique importance to neurological diseases since the era of Vedas and later on in samhita kala; the study of these diseases was done more elaborately. The unique position of man as a master of Animal Kingdom is because of skilled movements of his hands and when this shoulder joint gets restricted we call it as Avabahuka. This disease causes shoulder pain and stiffness. In modern medicine, it can be correlated with frozen shoulder for which we do not find any satisfactory management. Mashataila Nasya and local snehana swedana has proved beneficial in decreasing both pain and stiffness of shoulder joint within short duration of therapy. Here an effort is made to study the role of masha taila Nasya, Abhyang in the management of Avabahuka. Patient: Age group 20–70 years of either sex will be selected. (2) Medicine: Mashataila will be prepared. (3) Trial: Mashataila nasya along with local abhyanga will be given to 30 patients. (4) Effect will be assessed on the basis of subjective criteria like sandhishula, sandhigraha, goniometry. Results and Conclusions will be drawn on the basis of statistical analysis. **[PO-61A]**

Keywords: Mashataila nasya; Avabahuka

An Ayurvedic Approach to Computer Vision Syndrome

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In the modern era of globalization, human life style has been completely changed and it is full of competition and advanced technologies. Nowadays use of computer, internet surfing is common and many computer users have computer vision syndrome (CVS); its temporary condition resulting from focusing the eyes on a computer display for protected, uninterrupted period of time. Symptoms of CVS are headache, tried and achy eyes, dryness of eyes, Blurred or double vision, difficulty in focusing after working long duration on computer. According to a study, 50–60% of computer user experiences the symptoms of CVS. Ayurvedic view of computer vision syndrome, its cause preventive steps, Ayurvedic treatment discussion and conclusion will be presented in poster presentation. **[PO-68]**

Keywords: computer vision syndrome; Ayurvedic view; Ayurvedic management; Vataj netra vikara

Proper Medical Documentation Practices Can Improve Patient Care

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The paper deals with improving patient care in an Ayurveda practice by using proper documentation practices that are of international level. Also ordering relevant laboratory test and keeping a record of the test to monitor progress of the patient for chronic diseases like diabetes. We designed new format for patient documentation which included the review of history, review of systems, physical examination, laboratory test and doctor notes about the assessment and plan. We also gave training under the guidance of senior ayurvedic doctors and US-trained allopathic doctor to the ayurvedic doctors for a period of 6 months on the importance of proper documentation, and used the form in practice for chronic diseases like diabetes. Using the new format for documentation, ordering relevant laboratory test, keeping record at each visit, even the phone calls of the patient, and proper signature of the records of the patient greatly improved the knowledge base of the doctors and helped them to provide better medical care. Ayurvedic medicines are especially useful for chronic diseases, e.g., diabetes and proper documentation, record keeping can help the doctors to provide excellent care without any interruption when the treatment lasts for years. **[PO-81]**

Keywords: medical documentation; Ayurveda; chronic diseases

Efficacy of Gokshuradi Churna in the Management of Male Infertility

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In today's, I come across a number of couples with infertility problems due to different causes like oligospermia, decreased motility of sperm, defective morphology of sperm, high PH of semen and personal history like tobacco chewing, Kharrah chewing, hot, spicy and fast-food eating habits. The study concludes that the Gokshuradi Churna is highly effective in male infertility (i.e. in oligospermia, decreased mobility, defective morphology and high PH). **[PA-144B]**

Keywords: infertility; oligospermia; Gokshuradi Churna

Diagnosis and Management of Luta Visha (Spider Poisoning) in Ayurveda

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Agadatantra, a branch of Ayurveda, deals with poisoning by snakes, insects, spiders, scorpion, rats, etc., their diagnosis and management. Spiders are found worldwide. Even though all spiders are poisonous, only a few are dangerously poisonous to man. Luta visha (spider poisoning) is wide spread in the lower socio-economic group, specifically among people who are forced to live in colonies and old houses. The toxicity, signs and symptoms varies in accordance with the varieties of Luta. The clinical manifestation resembles Dadrumandala which makes differential diagnosis difficult. All Ayurvedic treatises describe Luta visha in detail. In Ayurvedic texts, a scientific method of management of Luta visha is depicted. It includes many formulations for internal and external administration which are popularly used in practice. This paper is an attempt to explain the diagnosis and management of Luta Visha in Ayurveda. **[PO-656]**

Keywords: Dadrumandala; differential diagnosis

SCH Pack (Saindhava Crystal Heat Pack) in Management of Pain in Amavata

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As the pain in Amavata is very severe and many of the people are suffering from these immense painful disease, it is an auto-immune disease. It is the biggest problem arising in the modern society; people are taking pain killers and going to physiotherapy center for this painful condition. But in Ayurveda by using simple things, we can manage this painful condition. This make Ayurveda affordable to all and very cheap. I am taking little modified and different view to manage this condition but the base of my view is totally depending on the ayurvedic principle. As we all know that there is a direct reference of ruksha sweda in Aamvata. And also there is a reference of use of saindhava in this condition; hence, I am using the above mentioned crystal covered with some easily available drugs in the management of Amavata for ruksha sweada. **[PO-1030]**

Keywords: Saindhava Crystal Heat Pack; Amavata; ruksha sweada

Clinical Evaluation of Vrishya Satavari Ghrit in the Management of Klaibya (Male Sexual Dysfunction)

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Klaibya is described, in short, as the inability of a man to have sexual intercourse with a willing partner. Charaka defines Klaibya as 'A person even on having sexual desire and a willing partner is not able to have coitus with her due to lack of erection or lack of rigidity of the penis. Even if he manages to have erection, his anxiety will cause attacks of dyspnoea and profuse sweating and his attempts to have sex will result in a failure'. Modern medical science described the disease 'Klaibya' under the heading of Male sexual dysfunction or impotence. Medically, impotence is defined as the inability to sustain an erection sufficient for intercourse on at least 25% of attempts. The incidence of sexual dysfunction is increasing day-by-day. In many occasions, it is observed that stress and strain full life in urban India are the causes for such condition to develop. And it increases as the age advances. About 10–15% of the population suffers from some aspect of impotence at any given period his living period. The classical Ayurvedic medicine 'Vrishya Satavari Ghrit' is applied for the management of male sexual dysfunction or klaibya. For the clinical trial, a total of 30 patients were selected randomly from OPD of Government Ayurvedic College and Hospital, Guwahati 14, Assam during the period from February 2007 to December 2007 and showed good result. **[PO-1032]**

Keywords: Klaibya; Male sexual dysfunction; Impotence; Vrishya Satavari Ghrit

Upshaya-Anupshaya from Diagnostic, Curative and Preventive Aspects

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Upashaya-Anupashaya occupies vital component of Nidan panchak which required a comprehensive attention while undertaking treatment of any disease. It is not only a diagnostic tool but also potent mode to treat any disorder. Ayurveda classics have given much emphasis on it but unfortunately it remains the ignored part in other system of medicines. 'Vaidya jeevan' explaining its importance stated that if a person lives with Pathya/Upashaya then what is the need of taking medicine. On contrary to it, if person does not follow pathya then also taking medicine is useless. 'Charak Samhita' expanded the scope of pathya and classified all the substances which are not harmful and exhilarating in nature as pathya. In the present era, a large number of patients have tendency to keep themselves away from taking any medicines and in such cases Upashaya becomes very useful. Recommending the

eatables in general and also in specific dosha and disease condition are elaborately narrated which plays a pivotal role in acute to chronic condition; all of which will be discussed in the full paper presentation. **[PO-1062]**

Keywords: Upashaya-Anupashaya; Nidan panchak; Vaidya jeevan

Management of Male Infertility w.s.r. to Azoospermia

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Infertility is defined as 'Inability to conceive even after one year of regular unprotected sex'. Male infertility denotes the absence of ability to induce conception, which amounts to 50% of incidence among 15–20% of infertile couple of which infertility due to azoospermia is 2–5%. The conventional system of medicine does not offer any definite treatment. Vajeekarana drugs are well documented in various studies for its ability to promote the quality/quantity/motility of the sperms. Hence, a study on 30 patients diagnosed to be azoospermic confirmed by semen analysis and testicular biopsy in the age group of 30–45 years were administered Ayurvedic preparations, namely, Vajeekara Rasayana, Ashwagandha cap, Rajata navaneeta, Shukrashilavati, navajeevana rasa, Vyadhiharana rasa, Shakti cap, Shiva gutika, Vanga bhasma, Kapikachu Ghana vati in combination. Medicines were administered for a period of 3 months to 2 years. The study revealed 20% of the patients showed the presence of sperms and 10% patients were able to induce conception. Ayurvedic medicines can be a hope for azoospermic patients and needs to be confirmed on larger group through scientific documentation. **[PO-1097]**

Keywords: male infertility; Vajeekara Rasayana; Ashwagandha cap; Rajata navaneeta

Efficacy of Special Ayurvedic External Application in the Bartholinitis

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Batholinitis is one of the most common complaints. The vestibular gland of Bartholin is infected and the result is an absceses which form a red and painful, swelling and expends the posterior part of the labium minora. It causes severe discomfort in walking or sitting. The aim of the study was carried out the evaluate the efficacy a herbal formula cream in relieving symptoms of Bartholinitis are itching, swelling, redness, painful of labium minor and vaginal discharge. A trial was conducted with selected herbal formula on 40 patients who attended the gynecological outpatient clinic of Wickramarachchi Ayurveda Hospital, Yakkala. The patients were administered the herbal formula cream with instructions to apply labia minora and intra vaginaly, twice daily. They were re-evaluated after seven, and fourteen days, it was found that the poly herbal formula cream produced effec-

tive and symptomatic relief from inching, swelling, redness, pain of labia minora and vaginal discharge. There was a complete (100%) response to all symptoms. 50% of the patients showed complete response to the herbal formula cream within 7 days of treatment. The herbal formula cream gives suddenly relief of the all symptoms of Bartholinitis.

Keywords: Batholiitis. Swelling of Labia-minora. Polyhedral formulation

A Study of Traditional Oil 'Shoolahara Taila' in the Management of Amavata (Rheumatoid Arthritis)

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The use of medicated oil is as old as Ayurvedic system of medicine. It plays an important role when giving Ayurvedic treatments. Tailas are used for internal administration and external application. Specially they are used externally. Most of the vata rogas can be cured easily by using external applications of taila with other treatments. There are about hundred of Tailas used externally in Sri Lanka. Among them, Sri Lankan traditional oil named 'Shoolahara Taila'. Specially used in Amavatika sandishula and other vata vyadi. From the modern point of view clinical features of Rheumatoid arthritis is parallel to Amavata. The prevalence of Rheumatoid arthritis is rapidly increasing for the last few years due to greater effect of their life style. Lot of medicines which are used for external application are available in the market such as Cream, Barm, Jell, Ointment etc. which are given a temporary relief. But the Shoolahara Taila is very effective for external application. This study raised on this traditional oil in the management 40 patients of Amavata. A clinical study has been conducted in the OPD at Gampaha Wiccramarachchi Ayurveda Hospital.

Keywords: Amavata; Taila; Shoolahara

Clinical Evaluation of the Efficacy of Two Different Prakshalana Drava in the Management of Kushta (Skin Diseases) having Oozing Condition

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Skin diseases, which are known as kushta in Ayurveda, can be considered as one of the commonest health issues in the current society in Sri Lanka. Oozing is one of the main symptoms of certain varieties of Kushta. Patients having Kushta with oozing suffer physically and mentally. Thus this type of Kushta should be treated with medicines, which act rapidly and effectively. In Ayurveda, internal and external modes of treatments are of greater vitality in the management of these types of kushta. Prakshalana is commonly used as external mode of treatment in the management of kushta having oozing condition. This study is to determine efficacy of Pracshalana Drava containing khadali rhizome (Musa balbisiana) with Haridra root (Curcuma longa L.) in the management of Kushta having oozing condition. The study was carried out at the dermatology clinic of Gampaha Wickramarachchi

Ayurveda Teaching Hospital, Yakkala, Sri Lanka during the period of 02-03-2009 to 10-01-2010. The selected sixty patients were randomly divided into two equal groups, A and B. Group A was given Pracshalana Dravya containing Nimba leaves (Azadirachta indika A. juss) with Haridra root (Curcuma longa L.) for clean the affected oozing region. Group B was given khadali rizom (Musa balbisiana) with Haridra root (Curcuma longa L.) containing Pracshalana Drava clean the affected region. Both groups were given selected Ayurveda modalities as internal mode of treatment. Follow-up period was three weeks and clinical outcomes were statistically analyzed. The result revel that Group B has shown a significant decline of Kushta having oozing condition. The data suggest pracshalana drava containing khadali rizom (Musa balbisiana) with Haridra root (Curcuma longa L.) play a vital part in the management of kushta having oozing condition.

Keywords: Kushta, Prakshalana Drava, Nimba, Haridra, Kala khadali.

Evaluation of the Efficacy of Snehana with Aushadeeya Vashpa Sweda on Scaling of Sidhma Kushta (Psoriasis)

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Sidhma Kushta is troublesome and unpleasant skin disease. Sidhma Kustha is a disease explained in Ayurveda which shows many similar features of "Psoriasis" in modern medicine. In SriLanka this disease is known as "Potu kabara" in Sinhala. In Ayurveda Panchakarma treatment said to be effective in skin diseases. Snehana with Vaspaha Sweda is a poorva karma of panchakarma treatment. This study was conducted to study the efficacy of Snehana with aushadiya Vaspha sweda on scaling of psoriasis. Sixty patients were selected randomly further inclusion criteria and they were divided into two equal groups A & B. group A was given selected Ayurveda modalities for three days and following day given A Group B was given aushadiya vashpa Sweda three days following day given Avipaththikara choorna for Virechana assessment was done through observation of symptoms every day effectiveness has been checked by examine for a week. The analysis of data revealed Group B has shown a significant decline of severity scaling of psoriasis the study reveals that Snehana with Vashpa Sweda is and effective treatment on scaling of psoriasis.

Keywords: Sidhma kushta, aushadiya vashpa sweda, Avipaththikara choorna, virechana

Effect of common Sri Lankan Formula 'Shatavari Gopakanyadi Kwata' (SGK) on Menopause Symptoms such as Hot Flashes and Night Sweats: a Pharmaco-clinical Study

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The study was carried out to determine the effect of Shatavari Gopakanyadi Kwata (SGK) on perimenopausel symptoms including hot flashes and night sweats. SGK

is used in the management of Rakta-pitta in Sri Lanka. The ingredients of the SGK are Asparagus racemosus, Hemidismus indicus, Santalum album, Vetiveria zizanoides, Plectranths zatarhendi, Amaranthus viridis, Vitis vinifera, Rubia cordifolia, Nymphaea nouchali and Glycyrrhiza glabra. According to the literary review, 100% of Pitta-shamaka and Dahaprashamana qualities can be found among these ingredients. Thirty menopause women between 42 and 56 years were selected from OPD of Gampaha Wickramarachchi Ayurveda Teaching Hospital at Yakkala. The patients with Diabetes Mellitus, Obesity and Heart disease were excluded. The study was based on diminution of symptoms. They had been treated with internal administration of polyherbal preparation of SGK 120 ml BD for 12 weeks. A scoring system was used to quantity the degree of severity of each symptom. This study shows that the administration of Shatavari Gopakanyadi Kwata has significantly contributed in reduction in degree of the symptoms including hot flushes and night sweats.

Keywords: Shatavari Gopakanyadi Kwata (SGK), menopause, hot flushes, night sweats.

Development and Standardization of Cowdung-based Polyherbal Face Pack and Evaluation of its Antimicrobial Properties

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The medicinal importance of natural resources such as animal produce, herbs and the minerals is well described in ancient Indian medical science, i.e. Ayurveda. The present study was undertaken to develop, standardize and evaluate antimicrobial property of cow dung-based polyherbal face pack, an innovative cosmetic product. The product was developed by using natural resources like cow dung, Neem leaves, Multani mitti, Haridra, Haritaki, Shatawari, Kapoorkachari and Vaca. The formulation was standardized by using physico-chemical parameters like particle size, moisture content, extractive values, ash values, microbial count, heavy metal, pesticidal residue and HPTLC. The extracts were prepared in ethanol, methanol, acetone and DMSO. The extracts were screened for their anti-microbial activity using the agar well diffusion method. They were tested against Staphylococcus aureus, Trichophyton rubrum and Menthagrophytes. This study supports the use of natural resources to promote rural industrialization. **[PO-90A]**

Keywords: Antimicrobial; rural; cowdung; cosmetic

Bacteriostatic Action of Goghrut

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According to classical text of Ayurved it has been mentioned that goghrut should be applied on wounds. Similarly, it is also administered orally to the patient of Atisar, Grahani, etc. Thus, it becomes a matter of study to investigate the role of goghrut in this respect. Accordingly experiment for the growth of pathogen in Nutrient broth treated with 0.06–0.07% goghrut showed bacteriostatic action of the substance. **[PO-90B]**

Keywords: Goghrut; Pathogen; Atisar; Grahani

Cosmoceuticals and Cosmetics in Ayurveda

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Cosmoceuticals imply solutions that will address root causes of the skin's ill health. Cosmetics may often tend to be superficial, short-term solutions. The hypothesis used for this study are (1) Ayurvedic Cosmetics are simple, gentle, and natural; (2) pleasurable and easy to use; and (3) free from chemicals, minerals, oils, petroleum-based products, synthetic perfumes. Methods: Skin care: Through Abhyanga, Vyayama, Snana, Anulepana, Nasya, Utsadana, Udvartana, etc. (b) Varnya, Raktaprasadana, Keshya, Kustaghna, Kandughna, Dourgandhyahara, drugs are having beneficial effects in maintaining skin in healthy and attractive condition. (c) Food Articles that are good for skin: Rice, Wheat, Barley, Green gram, Dates, Pomegranate, Amla, Grapes, Snake gourd, Brinjal, Ghee, Karela (bitter gourd). Food Articles that are bad for skin: Udad (black gram), Kulattha (horse gram), Curds, Fruits with milk, Milk with fish or crabs, Pungent food, Alcohol. Conclusion: Skin cover the organ, vast surface area of 18 sq ft, adjust and adopt to the changing external factors like temperature, humidity, radiation, invasion by microorganisms. (1) Ayurveda advises on the use of Cosmoceuticals rather than Cosmetics and recommends many preventive and curative concepts of beauty aids which are time tested and safe. (2) A range of Cosmoceutical products should support the conventional cosmetics so that more science that can guide skincare. **[PO-246]**

Keywords: Ayurveda; Cosmoceuticals; Cosmetics; skin; Beauty

Beauty: Ayurvedic Paradigm of Sexual Self-Esteem

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Beauty has been admitted across all the cultures, races and ages since antiquity. The ancient sources of knowledge, namely, Vedas along with Puranas, Ramayana, Mahabharata, Brihat Samhita, Vatsyayana Kamasutra, etc. have a definite say on the concept of beauty. The Cosmetic approach of Ayurveda deals primarily with the healthy status of the body and mind. The description available in Ayurvedic texts in context of health in general and Cosmetology in particular can be categorized into three divisions as (1) Factors determining Beauty – Prakriti, Saara, Samhanana, etc.; (2) Factors contributing towards Beauty – Dosha, Agni, Ojas, age, etc.; (3) Factors improving Beauty – Dinacharya, Ritu charya, treatments like Plastic surgery, Vaikritapaham, etc. The details of this cosmetic approach of Ayurveda are presented in the paper. **[PO-301]**

Keywords: Beauty; Sexuality; Cosmetic approach; Prakriti; Dhatu; Ojas; Dinacharya; Ritucharya

Cosmetology and Ayurveda

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Since the dawn of ancient wisdom, human species have a desire to appear graceful and charming, irrespective of age, sex and colour. He has always searched and used cosmetics to add glaze to his outward appearance. 'Cosmetology' deals with the study of preparations used for beautifying hair, skin or complexion. Since Ramayana and Mahabharata Kala remedies were used as Lepana's, Shiro-abhyanga and Dhoopan to make queen look beautiful and attractive and Rasayan's were used to prevent aging of skin. Varnakara, Kantikara and Saumyakara group of drugs mentioned in ayurvedic text, such as Chandana, Haridra, Nagkesara, etc were used to restore complexion and luster. Rasanaya's such as Goduchi, Amalki, Triphola, etc. were used to revitalize Rasa Dhatu and to maintain balance between Dosha's and Dhatus. Beauty clinics running successfully in the glamorous world, use chemicals of multinationals, where as easily available ayurvedic herbs in existence, having great potential is less used till date. This paper is an attempt to bring forth global awareness to some cosmetic herbs especially for the maintenance of ones complexion and luster. Details will be discussed at the time of paper presentation. **[PO-781]**

Keywords: Varnyakara; Saumyakara; Kantikara; Rasayana

Scope of Ayurveda in Cosmetology

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In this modern era, people are going more on external appearance. To enhance gorgeous looks, many cosmetic materials are being used. These chemicals apart from giving a temporary beautifying effect can cause damage to human body. Since many ages, beautifying oneself has been a major aspect of human race. For this purpose, Ayurveda has depicted many formulations. Beauty is nothing but the reflection of good health. While defining swastha, it is mentioned that one who has all the doshas dhatus agni and malas in equilibrium, along with pleased and satisfied soul senses and mind is healthy. This implies for beauty also. Our ancient acharyas have also told many natural herbal remedies and therapies that will enhance beauty. Following of regular dinachrya, ritucharya and sadavritta is also a major part of therapy. Today people are not able to follow the principles told by our science and their new lifestyle is leading to hampering of their natural beauty. Beauty has various expressions in a person and priorities of the concept of beauty also changes from person to

person. Few parameters applied to beauty are healthy hair, eyes, teeth, skin, weight, height, and youth. Ayurveda gives an overall nourishment to all these factors with simple effective and everlasting treatment. Some of it includes sirovasthi, sirodhara, netra tarpana, anjanam, nasyam, abhyangam, vamana, virechana, vasthi, and some mukhalepas. A formed protocol with these modalities and further details about the benefits of the same will be discussed later in the full paper presentation. **[PO-1043]**

Keywords: Cosmetology; Ayurvedic herbs

Cosmetology and Ayurveda

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This paper discusses the unique points of skin care in Ayurveda through a case study of an Ayurvedic beauty range marketed in the West. One of the principle tenets of Ayurvedic skin care is that nothing should be applied to the face that cannot be eaten. This is in stark contrast to the modern beauty industry which uses chemicals and preservative-laden products. Ayurvedic knowledge helps us understand that whatever appears on the face and skin are just a reflection of what's occurring in our bodies. Imbalances in the body will just manifest in the skin. To correct these imbalances, we need to use products that are not just cosmetic in nature but have a therapeutic benefit to correct the underlying cause. Ayurveda has also introduced the concept of total wellness to the beauty industry, moving the industry away from just pampering clients to providing a total healing experience. The paper covers the following topics: (1) Role of Ayurvedic bodywork in the Spa industry; (2) Drug-free solution to wrinkles and blemishes; (3) Comparative analysis of Ayurvedic herbs and Western herbs and their impact on beauty; and (4) Role of daily and seasonal regimes in maintaining our beauty.

Comparative Study of External Treatments for Mukadushika in Ayurvedic and Indigenous Medical Systems that are Prescribed in the Texts and used Practically

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This comparative study was carried out to fulfill the need to find a successful treatment for the Mukadushika medical condition. The main aim of the research was to find out the availability of external medicines for Mukadushika in Ayurvedic and indigenous medical systems. The hypothesis of this research was that there are effective external medicines for Mukadushika in Ayurvedic and indigenous medical systems. A literary study was carried out giving special reference to selected Ayurvedic and indigenous medical texts. Also the relationship between Mukadushika and the medical condition Acne Vulgaris in western medicine was analytically studied. Methodology of this research was comprised of analysis of selected Ayurvedic and indigenous medical texts, and collection of data through a ques-

tionnaire given to randomly selected Ayurvedic and indigenous medical practitioners in Gampaha area. Data gathered were analyzed separately and comparatively. Accordingly six botanicals were identified as textually prescribed and commonly used items for Mukadushika. Conclusion of the research was that there are effective treatments for Mukadushika in Ayurvedic and in indigenous medical systems. It is suggested that further study should be conducted on clinical trial selected on medicinal regiment for more evolution.

Keywords: Mukadushika, Ayurvedic medicine, indigenous medicine, Acne vulgaris

Clinical study of the Efficacy of Siyakkai Hair Wash (SHW) on Darunaka (Pitiriasis capitis)

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Skin constantly renews itself. Dead cells fall off as new cells form beneath them. In Pityriasis capitis, this process is abnormally accelerated. Its signs and symptoms are cells shed in clearly visible flakes, small white or grey scales accumulating on the scalp, itching and dry or greasy hair. Signs and symptoms of Darunaka according to Ayurveda are dry, cracked and itching skin of the scalp. Pityriasis capitis can be correlated with Darunaka. Sri Lankan Muslims and Tamils use Siyakkai hair wash (SHW) as an effective home remedy. No known scientific study has been undertaken to evaluate the efficacy of SHW. Hence, present study was undertaken. SHW is prepared by adding 10 g of powdered pods of Acacia concinna to 240 ml of boiled water. Seventy patients having Darunaka were selected and divided in to two groups, namely Group A and B. Group A, consisting of thirty five patients, was treated with 240 ml of SHW every alternative day, for twenty eight days. Group B, consisting of thirty five, was treated with placebo, in the same regimen. Response to treatment was recorded and therapeutic effects were evaluated through symptomatic relief. Patients treated with SHW showed a significant symptomatic relief in scaling, itching, dryness and greasiness of scalp after treatment. Interval between scaling also became longer. Some patients treated with SHW complained of rhynorrhoea. It is concluded that the Siyakkai hair wash is relieved Darunaka (Pitiriasis capitis).

Keywords: Siyakkai Hair Wash, Darunaka, Pitiriasis capitis

Non-pharmacological treatment of Diabetes mellitus

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Diabetes is the present burning problem throughout the globe, we can manage it by behavioural activities (physical and mental), Yoga (asanas and meditation), and nutrition (with respect to calories and glucose levels). The other aspects covered in the paper are (1) preventive aspects (in the people who are genetically unsusceptible), (2) postponement (in the people who are susceptible genetically), (3) proper management (without getting complications like hypertension, diabetic nephropathy etc.). **[PO-57]**

Keywords: Yoga and Ayurveda, diabetes, non-pharmacological treatment

Evaluation of Antidiabetic Potential of Unripe Fruits of Carissa carandas Linn.

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Fruits of Carissa carandas commonly known as karanda have a long history of use in traditional system of medicine. In Ayurveda, the unripe fruits were used as an anthelmintic, astringent, appetizer, antipyretic, biliary, stomach disorders, rheumatism, antipyretic, hypoglycemic, aphrodisiac and diseases of the brain In the present study, methanolic extracts of unripe fruits and its fractions were studied for its antidiabetic potential. All the extracts and their fractions were screened for antidiabetic activity (200; 400 mg/kg, p.o.) in alloxan-induced diabetic rats. The most significant antidiabetic activity was observed with ethylacetate fraction of methanol extract at a dose of 400 mg/kg of body weight. The antioxidant activity, total polyphenol and flavonoid content were also determined. The most significant antioxidant activity was exhibited by methanol extract when compared with all its fractions. **[PO-590]**

Keywords: Antidiabetic; Antioxidant; Carissa carandas; karanda; Flavonoid

Management of Madhumehajanya Upadrava w.s.r. to Diabetic Nephropathy: an Observational Clinical Study

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Diabetic Nephropathy is manifested as a microvascular complication of Diabetes Mellitus, a metabolic disorder coined here as Madhumehajanya upadrava since it manifests secondary to Madhumeha. It is the third leading cause of death among end stage renal disease (ESRD) patients. The optimal therapy necessitates dialysis which is much cumbersome. So, a research work was carried out where in 15 diabetic patients with retinopathy were screened for Microalbuminurea and other Biochemical assays for Nephropathy changes. Objective: To evaluate the combined effect of Shilajtvadi vataka, Punarnavadi mandoora, Triphala guggulu and Pippalimooladi paaneeya added with Amrita and Bhringaraja in Madhumehajanya upadrava. Design: Single blind observational clinical study with pre-test and post-test design. Interventions: Shilajatvadi Vataka: 6 g BID with 100 ml of milk, before food. Punarnava Mandoora: 2 g TID after food. Pippalimooladi paaneeya with Amrita and bhringaraja: 30 ml, BID before food. Triphala Guggulu: 3 g BID, after food. Duration: 48 days. Data were statistically analysed using descriptive statistics, Paired 't' test and contingency coefficient. Results and Conclusion: The above yoga showed statistically significant ($P = 0.010$) improvement in: levels of Microalbuminurea; GFR of 2.3813 ml/min/1.73 m^2, after 48 days by treating the malady Diabetic Nephropathy. **[PO-925]**

Keywords: Madhumeha Janya Upadravas; Madhumeha; Diabetic Nephropathy; Microalbuminurea; Shilajatvadi Vataka

Metabolic Disorders: Ayurvedic Non-pharmacological Intervention w.s.r. to Diabetes mellitus

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Diabetes can be understood by Ayurveda as Madhumeha, dominated by Vata Kaphaja doshas, with a bad prognosis (Yapya). But it can be managed well with herbal, mineral, and herbo-mineral compounds. Our present focus is on Ayurvedic management through non-pharmacological intervention. Ayurveda management through V P K, as a hepato-immuno therapy, Surya namaskara as light spinal cord exercises, 5–9 km walking, cycling for better BMR, different types of pranayama as a breathing exercise to improve vital capacity, meditation to bring normalcy in biochemical changes, following code of conduct and positive behavior for releasing the psycho stress factors and different types of diet resumes for strength of the body and support to the body tissues are important management aspects of the disease. Among these methods either one or two or all the methods can be adopted according to the condition or necessity of the patient. All details are discussed in full paper. [PA-1211]

Keywords: diabetes; hepato-immuno therapy; surya namskar;

Use of Lac as a Therapeutic Agent in Ancient India: Implications and Scope

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Lac, a nontoxic, organic, biodegradable, resinous secretion of an insect, Laccifer lacca is mentioned as a therapeutic agent in 'Atharvaveda', the ancient scriptures of the Hindus. It was used in ancient India for the treatment of wounds, fractured bones, burnt skin etc. Preliminary laboratory experiments using various lac solvents have revealed antimicrobial properties of lac against important human pathogens like Escherichia coli and Staphylococcus aureus. True medicinal value of lac as a therapeutic agent as mentioned in 'Atharvaveda', needs to be confirmed further by modern scientific methodology and techniques. Lac cultivation and lac industry will get a further boost, if lac's medicinal properties are proved scientifically. Lac's role in Indian economy is especially important because (1) it generates large scale employment in backward regions, and (2) it benefits the marginalised and Indians deprived without much capital or resource. Being a 'Green Industry' it will help us earn carbon credits, reduce carbon footprint and hasten economic transformation of rural India. **[PO-44]**

Keywords: lac; therapeutic agent; Indian economy

Physiological and Biochemical Changes in Ashwagandha (Withania somnifera L. Dunal) as Influenced by Organic Chemical and Integrated Nutrient

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There are about 20 known species in the genus Withania but commonly known species are Withania coagulens, Withania simonii, and Withania Somnifera. Withania somnifera (commonly called Ashwagandha or Indian ginseng or Winter Cherry) is an important medicinal plant in Ayurvedic and indigenous medicine for over 3000 years and belongs to family Solanaceae. Withania somnifera Dunal is an erect, evergreen, perennial shrub which is reputed to have adaptogenic, tonic, analgesic, antipyretic, anti-inflammatory, and abortifacient properties. It is used to treat various body disorders. The plant is a source of various withanolides. In view of its varied therapeutic potential, it has also been the subject of considerable modern scientific attention. An experiment was carried out to elucidate the effect of organic, chemical, and integrated nutrient management practices on physiological and biochemical changes in Ashwagandha. The experiment was laid out in RBD with three

replications during rabi season. The result reveals that 50% NPK + FYM 5t + PSB + Azotobacter 3 kg each +Zn 5 kg per ha and 10 t FYM + PSB + Azotobacter 3 kg each + Zn 5 kg per ha significantly improved the various physiological growth analytical parameters, leaf chlorophyll contents, yield attributing parameters ,seed and root yield and quality parameters including withaferin A, withanolide A, and withanolide B. **[PO-56]**

Keywords: Withania somnifera; withaferin A; withanolide A; withanolide B

Study on Safety and Effectiveness of Rasaaushadhi

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The rasa aushadhis are prepared by using metals and minerals. In the human body many minerals like calcium, phosphorous, potassium, carbon, sulphur, etc., are present in minute quantities but they are very important to maintain homeostasis — calcium is major component of bone and teeth, iron is necessary for oxygen transport and phosphorous keeps our heart beating smoothly and regularly. Hence to treat the deficiency diseases of these minerals, natural metals and minerals are frequently used in therapy both in Ayurveda as well as in modern science. But the Ayurvedic mineral medicines, namely the rasa aushadhis are facing many challenges like ban on their use in foreign countries, rumor about their toxicity like hepatotoxicity and nephrotoxity. Here is an attempt to evaluate the safety and effectiveness of rasa aushadhi. The objectives are (1) To focus on the problems faced by rasa aushadhi; (2) To bring in a solution to these problems; (3) To evaluate the safety and effectiveness of rasa aushadhi; (4) To give some guideline about manufacturing and using rasa aushadhi. This is a conceptual study based on the literary references from rasagrantha and analusis of available research on rasa aushadhi. The results and conclusion will be presented in the full paper. **[PO-63]**

Keywords: rasa aushadhi; toxicity; safety and effectiveness

Evaluation of Safety Profile of Vanga Bhasma Prepared by Two Different Methods

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Vanga enjoys a supreme position in Ayurvedic therapeutics. It is a main constituent of various medicaments mentioned in Rasa Shastra classics. However, wrongly incinerated Vanga Bhasma may have deleterious effects. Hence the present study was designed to explicate and compare the toxicity profile of Vanga Bhasma prepared by Puta and Vastra

Puta methods. The study was carried out in acute and chronic phases. Charles Foster and Wistar-strained Albino rats were used for the present study. In acute toxicity study, the animals in both the test drug groups did not manifest any sign of toxicity up to 40 times (2000 mg/kg) human therapeutic equivalent dose (50 mg/kg). In chronic toxicity study, no serious toxicity was found in both the test drug groups. Only cell infiltration and fatty changes in the kidney were observed in Puta group and Vasta Puta, respectively.

Keywords: vanga bhasma; puta; vastra puta; acute and chronic toxicity

Experimental Evaluation of Antimicrobial Activity of Few Common Rasaushadi Against Different Pathogenic Microbes

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Though there is little concept of antibiotics in Ayurveda, many Ayurvedic drugs show significant results in infectious diseases, these results are comparable with modern antibiotics. So the hypothesis is that, Ayurvedic Rasaushadhi also possesses antimicrobial property. The objective set is to evaluate antimicrobial activity of: (1) Laxmivilas Rasa; (2) Anand Bhairav Rasa; (3) Sanjeevani Vati; (4) Samirpannaga Rasa; (5) Rasamanikya; against 11 pathogenic microbes—bacteria and fungi. The above mentioned five Rasaushadis were tested for their antimicrobial activity against 11 common pathogenic microbes by culture and sensitivity method. The results were compared against established modern antibiotic and antifungal drug. The results were encouraging. Each Rasaushadhi exhibits different antimicrobial activity against microbes. On the other hand, few Rasaushadhis show results that are contradictory to clinical observations. The details of the experiment and the reason for contradictions are explained in this paper. **[PO-72]**

Keywords: antimicrobial; Rasaushadhi

Phytosomes: a Revolution in Herbal Treatment

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As per WHO 80% of the world population rely on the plants for treatment and the major drawback is delayed absorption of these extracts. To overcome this, a new ray of hope has arrived as phytosome technology. Plants are enriched with many health maintaining substances which are cheap, easily available, safe, nontoxic and with no or lesser side effects. Phytoconstituents have their own molecular structure and 3-D shape which affects their absorption after oral administration. The main barrier for absorption of phytoconstituents

is the biomembrane. Phospholipid-based molecular structure has been found better and effective in delivery of drug as it possess dual property and nutritional benefit. Complexing of phospholipids with polyphenolic phytoconstituents in molar ratio using aprotic solvent yields phytosomes. Phytosome is a breakthrough model for marked enhancement of bio-availability, greater clinical benefit, targeted delivery with no compromise to safety, better stability profile and synergistic effect. It can be concluded that phytosomes can effectively enhance the bioavailability of herbal extracts and useful for various therapeutic uses or dietary supplements. **[PO-74]**

Keywords: phytosomes, phospholipid, targeted delivery, phytoconstituents

Babul and the Clinical Effect of Babul Phal and Niryas in the Management of Rektapradar

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Raktapradar is a major illness in women in our society due to population and poverty. Many patients are suffering from this disease. Women above 35 years are the most affected. This paper studies the clinical effect of babul phal and Niryas in the management of Rektapradar. The details of this study are presented in the paper. **[PA-144A]**

Keywords: Raktapradar; Babul Phal; Women

The Cardiac Depressant Effect of Punica granatum in Perfused Frog Heart: an Experimental Study

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In the present study, the cardiac depressant action of Punica granatum was assessed in perfused frog heart. Water extract (kasaya) of fruit of Punica granatum was administered in perfused frog heart in different doses from 0.05 ml to 0.7 ml in increasing order (increased by 0.05 ml). By the administration of 0.2 ml of water extract there was a slight reduction in force of contraction. At 0.3 ml it became more prominent. From 0.35 ml onwards the reduction in force of contraction was decreased and by 0.6 ml the force of contraction became normal. The results suggest that the fruit of Punica granatum has a significant cardiac depressant effect on heart at a dose 0.3 ml. As a hridya dravya the fruit of Punica granatum can be used in cardiac conditions like arrhythmia. **[PO-155]**

Keywords: Punica granatum; Cardiac depressant effect; Frog heart

Wound Healing Activity of Annona squamosa Leaf Extracts in Alloxan-Induced Diabetic Rats

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The administration of alcoholic leaf extraction of Annona squamosa (100 mg/kg body-weight for 12 days) was evaluated for its wound healing activity in alloxan induced diabetic rats using excision and incision wound model. Extract treated animals exhibited 89% reduction in the wound area when compared to control which was 75%. The normal A. squamosa treated animal exhibited 92% where control was 79%. The extract treated wounds were found to epithelize faster compared to controls. The wet and dry granulation tissue weight content, hydroxyproline, tissue contraction, ascorbic acid and collagen concentration increased significantly due to A. squamosa treatment when compared with control. The present investigation concluded that A. squamosa promotes significant wound healing in diabetic rats and further evaluation of this activity in humans is suggested. **[PO-204]**

Keywords: Annona Squamosa leaf; alloxan; excision wound; incision wound

Experimental Evaluation of Antimicrobial Activity of few Common Rasaushadi Against Different Pathogenic Microbes

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Though there is little concept of antibiotics in Ayurveda, many Ayurvedic drugs show significant results in infectious diseases, these results are comparable with modern antibiotics. So the hypothesis is that, Ayurvedic Rasaushadhi also possesses antimicrobial property. The objective set is to evaluate antimicrobial activity of: (1) Laxmivilas Rasa; (2) Anand Bhairav Rasa; (3) Sanjeevani Vati; (4) Samirpannaga Rasa; (5) Rasamanikya; against 11 pathogenic microbes—bacteria and fungi. The above mentioned five Rasaushadis were tested for their antimicrobial activity against 11 common pathogenic microbes by culture and sensitivity method. The results were compared against established modern antibiotic and antifungal drug. The results were encouraging. Each Rasaushadhi exhibits different antimicrobial activity against microbes. On the other hand, few Rasaushadhis show results that are contradictory to clinical observations. The details of the experiment and the reason for contradictions are explained in this paper. **[PO-226]**

Keywords: antimicrobial; Rasaushadhi

Hepatoprotection by Bhuiawala Phyllanthus amarus in Tacrolimus (Immunosuppressant) Treated Experimental Animals

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Tacrolimus is an antibiotic macrolide with immunosuppressant properties isolated from Streptomyces tsukubaensis. It has potent immunosuppressive properties reflecting its ability to block the transcription of lymphokine genes in activated T cells through formation of a complex along with FK506 binding protein-12 which inhibits the phosphatase activity of calcineurin. Due to this property Tacrolimus has been used in many liver and kidney transplantation cases as an immunosuppressive drug. The clinical usefulness of tacrolimus is limited due to the adverse effects it causes, which include neurotoxicity, hepatotoxicity and nephrotoxicity. In the present study an effort was taken to see whether a second line of treatment with Ayurvedic drugs can reduce the toxicity of Tacrolimus. A 0.091 mg/kg/day dose of Tacrolimus administered to a mouse for 45 days caused Hepatotoxicity but it did not cause kidney toxicity. Animals treated with Tacrolimus (0.091 mg/kg) and Bhuiawala Phyllanthus amarus (650 mg/kg), an Ayurvedic drug, showed improved liver function which was revealed by biochemical and histopathology of Liver. A drastic reduction in the WBC count of animals dosed with tacrolimus was noticed when compared with normal controlled conditions, however the WBC count was found to be close to normal after Bhuiawala Phyllanthus amarus (650 mg/kg) treatment. **[PO-355]**

Keywords: Immunosuppression; Hepatoprotection; Tacrolimus

Hypolipidogenic, Anti-Inflammatory and Anti-Oxidative Activity of Bark of Ziziphus mauritiana Lamk

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Ziziphus mauritiana Lamk is a deciduous plant grown in India. The fruit of this plant is a rich source of Vitamin C. Various studies were conducted earlier to understand the different activities of this plant. Betulinic acid extracted from Zizyphus mauritiana showed selective toxicity against cultured human melanoma cells. A neolignin isolated from Z.mauritiana leaves was found to increase the release of endogenous prostaglandin I2 (the most potent natural inhibitor of platelet aggregation and a powerful vasodilator) from the aorta of rats. The extract of Z. mauritiana was found to have anti-diabetic activity in Wistar rats. The leaf extract also showed anti-inflammatory activity against carrageenan induced rat paw edema. The aqueous bark extract shows anti fertility activity. In the present study the anti-inflammatory activity, anti-oxidant activity and Lipase inhibitory activity of successive solvent extracts of the bark were studied. The anti-inflammatory activity was studied for Pet ether extract, Chloroform extract, Ethanol extract, and aqueous extract by Carrageenan

induced paw edema test. The chloroform extract showed 72% inhibition, Ethanol extract showed 55% inhibition and Aqueous extract showed 43% inhibition in inflammation of paw after treatment with these extracts at a dose of 200 mg/kg dose orally. The results of anti-oxidant activity and Lipase inhibitory activity are also reported in this article. **[PO-356]**

Keywords: anti-oxidant activity; anti-inflammatory; Z. mauritiana

Hypolidaemic and Antiatherosclerotic Potential of Various Extracts of Prominent Thar Desert Plant Capparis decidua in Cholesterol Fed Rabbits

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Capparis decidua is a xerophytic shrub, commonly known as Ker. This study was carried out to determine the hypolipidaemic and antiatherosclerotic medicinal effect of feeding of C. decidua plant extracts to cholesterol fed rabbits. For the present study, ethanol (50%) extract of C. decidua fruit, flower, shoot and bark were used. Atherodiet and cholesterol feeding for 60 days induced hyperlipidaemia in rabbits. The rabbits were divided into six groups and these groups were fed with standard laboratory diet (Group 1), atherodiet and cholesterol (400 mg/kg body weight) (Group 2), and rabbits of Groups 3–6 were fed with atherodiet, cholesterol feeding and Capparis decidua fruit, flower, shoot and bark extracts at the dose of 500 mg/kg body weight respectively. The histology of thoracic aorta was performed after completion of the experiment. The atherodiet and cholesterol feeding to rabbits (Group 2) resulted into formation of plaques in aorta. This is characterized by thickened intima, cell proliferation, collagen, and lipid deposition. Calcification of tunica media was conspicuous with abundance of foam cells. Lumen of aorta became narrow. Simultaneous feeding of atherodiet and C. decidua fruit (Group 3), flower (Group 4), shoot (Group 5), and bark (Group 6) extracts resulted in prevention of plaque and fatty streak formation. In conclusion, it is suggested that all the four extracts of C. decidua have antiatherosclerotic potential but C. decidua fruit and flower extract have shown to be more potent in preventing plaque formation. The use of these extracts could be useful in the management of cardiovascular disease in which atherosclerosis is important. **[PO-362]**

Keywords: Capparis deciduas; hypolipidaemic; antiatherosclerotic; atherodiet; cholesterol

Immunomodulatory Activity of Guduchi (Tinospora Cordifolia (Wild.) Miers) w.s.r. to its Different Dosage Forms

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Bhaishajya-Kalpana is a vital branch of Ayurveda, which mainly deals with pharmaceutical aspects of different dosage forms. For the merits like maximum extractions of active principles, increased shelf-life and acceptable palatability, etc., various dosage forms came into existence. Guduchi-Tinospora cordifolia (wild.) Miers is a multi-spectrum drug which is useful in various diseases like Kustha (Skin diseases), Vatarakta (Gout) etc. Different dosage forms like Ghrita, Taila, (medicated fatty preparations) Ghana, Kwatha (aqueous extracts), etc. of Guduchi have been emphasized in classics, which have their own pattern of dynamics and kinetics. Recent studies have revealed that, Guduchi in Ghana and taila forms showed significant results on humoral antibody formation and CMI, respectively. Guduchi Ghrita showed non-significant increase in the CMI but aqueous extract failed. The current paper aimed at proving immuno-modulatory activity of Guduchi w.s.r. in its different dosage forms. **[PO-397]**

Keywords: immunomodulatory, Guduchi, formulations

Medicinal Uses of Neem (Azadirachta indica) in Diabetes and Atheroscerosis

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Natural dietary method for controlling diabetes mellitus was studied using neem oil and neem flower extract (50% EtOH). They produced significant blood glucose lowering activity in normal as well as streptozotocin induced diabetic rats at +3 and +6 h. The decrease in blood glucose was more pronounced in hyperglycemic rats (57% and 62%). Hypoglycemic action of neem oil and neem flower extract may be due to increased peripheral glucose utilization or increased release of insulin. Antiatherogenic nature of neem oil and neem flower extract (50% EtOH) was studied in cholesterol fed albino rabbits. Neem oil and neem flower extract significantly reduced lipid profiles in treatment groups. Aortic lesions provoked by cholesterol feeding regressed after neem oil and flower extract treatment. Serum cholesterol dropped from 560 to 152 mg/dl in neem oil and to 163 mg/dl in neem flower extract. Neem oil and neem flower extract are effective in both hyperlipidaemic and atherosclerosis. **[PO-429]**

Keywords: Azadirachta Indica; neem oil; neem flower extracts; diabetes; atheroscerosis

Cultivation of Spirulina Platensis and Assessment of its Antihepatotoxic Effect on Paracetamol-Induced Hepatogenous Poisoning

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Drug-induced toxicity has become a major problem all over the world. Paracetamol is a potent analgesic and antipyretic drug that causes severe liver toxicity due to overdose. Thus, a necessity to identify a compound which is more hepatoprotective and has a high nutritive value existed. A naturally occurring Spirulina has already been pharmacologically evaluated for its potential therapeutic value. Spirulina was cultivated by the open tank method and its efficacy against paracetamol-induced hepatotoxicy in rats was investigated by analyzing hepatic markers. The activities of serum enzymes AST, ALT and ALP and the level of the serum Total bilirubin increased, while at the same time Total protein decreased in paracetamol-induced rats, which might be due to paracetamol toxicity of liver. Simultaneous oral administration of paracetamol (1 g/kg body weight/day, for 14 days) and Spirulina (2 g/kg body weight/day, for 14 days) decreased the activities of the above hepatic markers. This shows the protective property of Spirulina on cell membranes and the prevention of leakage of cellular enzymes. Thus, the hepatoprotective activities indicate that Spirulina platensis possess probiotic efficiency and it is also proved. The harvested Spirulina was found to be pure and safe. **[PO-440]**

Keywords: Spirulina Platensis; ALP-Alkaline phosphatase; AST-Aspartate Transaminase; ALT-Alanine Transaminase

In Vitro Antioxidative Activity of Bark, Root and Leaves of Azadiraca indica and Melia azedarach by DPPH Scavenging Assay

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The multisolvent extracts (aqueous, methanolic and ethanolic) of the root, stem bark and leaves of two Medicinal plant, namely, Azadirachta indica A Juss and Melia azedarach of Meliaceae family were assessed for antioxidant activity in vitro using the 2,2-diphenyl-1-picryl hydrazyl (DPPH) scavenging assay. The dry powder of the bark, root and leaves of the two neem trees were extracted using soxhlet extraction followed by vacuum rotary evaporator methods. The extracts were tested for antioxidant activity using DPPH scavenging assay. Total phenol contents of extracts were also determined by folin cicalteu reagent method. The results showed that the crude extracts of stem bark in both the plants exhibited higher free radical scavenging activity with 50% scavenging activity followed by Root and Leaves. The results also revealed that all plant parts of the Mahaneem (Melia azedaarach) exhibited higher antioxidative properties than Neem (Azadirachta indica). Due to high crude extract, phenolic concentration of bark, root and leaves of Melia show a positive correlation with antioxidant capacity. Similarly IC50 values in the bark, root and leaves of Mahaneem were as low as Ascorbic acid. The plant Mahaneem and its plant parts may be exploited for clinical medicine because of its high antioxidant activity. This report supports the ethno medical use of the bark, root and young leaves of this plant as a leafy vegetable and for medicinal purposes to promote good health. **[PO-451]**

Keywords: Azadirachta indica; Melia azedarach; DPPH scavenging assay; Mahaneem

Free Radical Scavenging Activity of Multi-Vitamin Plant (Sauropus androgynus L. Merr)

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Sauropus androgynus L. Merr., also known as katuk, star gooseberry, or sweet leaf, is a shrub grown in some tropical regions as a leaf vegetable which contains about 6–10% protein content. It is one of the most popular leaf vegetables in South Asia and Southeast Asia and is notable for high yields and palatability. In India it also known as Multi-vitamin Plant as it is an excellent source of provitamin A, Carotinoid, vitamin B and C, protein and mineral. It has high nutritive value and contains phytochemicals which can act as antioxidants. The antioxidant activity of multi-solvent extracts of Sauropus androgynus obtained from ethanol, methanol and water were tested by measuring their ability to scavenge reactive hydroxyl radical through Hydoxyl radical scavenging assay and 2,2-diphenyl-1-picryl hydrazyl (DPPH) (a free radical scavenger) assay. In general, the ethanolic extracts were better free radical scavengers than the methanolic and aqueous extracts. Similar results were seen in the Hydroxyl assay. Our findings also showed a linear relationship between the reciprocal of IC50 value and the total polyphenol content of Sauropus androgynus, indicating that increasing the polyphenol content strengthens the antioxidant activity. The findings indicated promising antioxidant activity of crude extracts of the above plant and needs further exploration for their effective use in both modern and traditional system of medicines. **[PO-452]**

Keywords: Sauropus androgynus L. Merr.; antioxidant; multi-vitamin plant

Comparative Antioxidant Activity of Curcuma longa and Curcuma aromatic by DPPH Scavenging Assay

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Turmeric cultivation in India occupies 60% of the total area intended for spices and condiments. It is a popular spice derived from the root of Curcuma longa L. Rasmi and Curcuma aromatica Salisb members of ginger family. The powder and its active principle, a group of curcuminoids, are widely used as: culinary spices, preservatives, food additives, cosmetics, and as oleoresin in food and pharmaceutical industries. In the last two decades, there has been considerable interest among the biochemical scientist to explore the possible therapeutic benefits of turmeric and its active principle, curcuminoids. This study was aimed at investigation of the phenol content, radical scavenging activity by DPPH method and assessment of curcumin content of the rhizomes spectrophotometrically in both the Curcuma species to establish its potential as a therapeutic agent for many chronic diseases. Crude extracts of C. longa and C. aromatica were obtained by using water, methanol and ethanol solvents. Total phenol contents of extracts were also determined by folin cicalteu re-

agent method. The ethanolic fraction of Curcuma longa gave the highest yield of 3.35gm of rhizome and showed the highest value of radical scavenging activity of 74.61 ± 0.02% due to presence of high amount of curcumin and phenolic content. In comparison to C. longa, C. aromatica showed less amount of yield and decreased value of radical scavenging activity due to presence of fewer amounts of curcumin content and phenolic content. **[PO-453]**

Keywords: Curcuma longa; Curcuma aromatica; turmeric; curcumin; phenolic content

Effect of Eugenol from Clove on Platelet Aggregation in Men

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Evaluation of eugenol from clove (Syzygium aromaticum Linn.) on fat induced alteration in platelet aggregation in healthy volunteers. Eugenol isolated from the oil of clove has a strong antiplatelet activity against arachidonate, adrenaline and collagen induced platelet aggregation in in vitro experiments. It is therefore also possible for eugenol to affect human platelet aggregation. To evaluate the effect twenty healthy male individuals between the ages of 30 to 50 years with normal lipid profile were selected. After initial fasting blood samples for platelet aggregation, they were fed 50 g butter with 4 slices of bread and a glass of milk and second blood sample was collected after 90 minutes. They were then randomly divided into two groups of 10 each. Group I was administered eugenol 20 mg/kg with fatty diet and group II was given matched placebo and again blood samples were collected. All blood samples were studied for platelet aggregation in vitro using Adenosine diphosphate (ADP) and epinephrine as aggregating agents. The results reveal that the administration of 50 g butter increased platelet aggregation induced by ADP and epinephrine to a significant extent ($p < 0.01$). Addition of eugenol with fatty diet significantly decreased platelet aggregation ($p < 0.05$). The effect in placebo treated group was not significant. Thus, the conclusion is that Eugenol in a dose of 20 mg/kg not only checked the fat induced rise in platelet aggregation but also significantly decreased platelet aggregation induced by ADP and epinephrine without any untoward effects. **[PO-567]**

Keywords: Syzygium aromaticum; Platelet aggregation; eugenol; adenosine diphosphate (ADP)

Effect of Gomutra Shodhita Guggulu on Hyperlipidaemia

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Lipid and lipoprotein abnormalities are extremely common in people in this era. Raised cholesterol is prevalent in 60% of females in 50–59 years age group, whereas in males it is prevalent in 45% individuals of 40–49 years age group in India. In the present clinical trial, study was done on 27 patients to evaluate the effect of gomutra shodhita guggulu [Commiphora wightii(Arn.) Bhandai] on dyslipidaemia. S Cholesterol, S Triglyceride, S LDL, and S VLDL were used as biochemical parameters to assess the effect of the trial drug. It was found that Shuddha Guggulu is effective in reducing the lipids i.e., S Cholesterol, S Triglyceride, and S VLDL. The trial drug has significant effect in reducing the symptoms of Medodushti and in reduction of objective parameters like weight, BMI, body circumference at the chest, abdomen, hip and pelvis, and reduction of skin fold thickness in the biceps, triceps, and abdominal areas. **[PO-633]**

Keywords: medodushti; hyperlipidaemia; Shuddha Guggulu

Evaluation of Anti-Oxidant Activity (Rasayana Karma) of Pippalî (Piper longum Linn.) w.s.r. to Bronchial Asthma (Tamaka śvãsa)

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Bronchial Asthma is one of the most common clinical disorders affecting patients of all ages. Being a chronic disorder it has got long term effects and also various complications. One of the important biochemical changes found in Bronchial Asthma is increase in oxidative stress which is responsible for cellular damage and further complications. Antioxidants play an important role in protecting the individual against this damage. Pippalî has been described as 'Rasãyana' in ayurvedic texts and has Piperine which acts as an anti-oxidant. Pippalî is a wonder drug which does multiple actions like kasahara, swasahara, rasayana, etc. We felt the need to evaluate the antioxidant role of Pippalî. The objective set is to evaluate anti-oxidant activity of Piper longum in patients with Bronchial Asthma and to provide effective medicine for the people suffering from Bronchial Asthma to make their prognosis better. Open labelled placebo control study methodology was followed. Patients affected with Bronchial Asthma were selected by simple random sampling method. Total number of cases: 90. Patients divided into '3' groups as follows. Group A: 30 cases (Causaştiprahara pippalî churna). Group B: 30 cases (Causaştiprahara pippalî churna + Modern treatment for Bronchial Asthma). Group C: 30 cases (Placebo + Modern treatment for Bronchial Asthma). Duration of study: 60 days. Formulation: Causastiprahara Pippalî churna. Mode of administration: Oral. Dose: 250 mg, thrice a day. Apart from monitoring improvement in various symptoms like Śwãsa-kastatã, Ghura-ghuraka Śabda, Kastanaślesmavimokśana, and peak expiratory flow rate, various investigations were also carried out. Values of *MDA, *GSH, *SOD, Peak expiratory flow rate (PEFR) and Eosinophil count before and after the treatment in all three groups were evaluated statistically using 'Anova test (F test)'. The symptoms were evaluated using 'Paired t-test.' The Statistical analysis shows that Piper longum is effective in reducing oxidative stress in patients of Bronchial Asthma. At the end of

the study it was noted that in group B, i.e. patients who were taking Causaştiprahara pippalî curna + Modern treatment for Bronchial Asthma, have good relief in symptoms, improvement in enzyme levels, i.e. decrease in oxidative stress. Also, in group C, i.e. patients taking Placebo + Modern treatment for Bronchial Asthma, there was good symptomatic relief but it was less than that of group B, but no relief in oxidative stress as such. There was very mild improvement in symptoms in group A, i.e. patients who only took Causaştiprahara pippalî churna. Thus, the conclusion is (1) Pippalî is an effective antioxidant agent in present era. (2) Its antioxidant activity can be studied in other diseases with increased oxidative stress. (3) More efforts should be done to find antioxidant activities of other medicinal plants. **[PO-662]**

Keywords: Rasayana; Pediatrics; Piper longum; bronchial asthma

Phytochemical Screening, Antimicrobial Studies, and Mass Multiplication of Toddolia Aculeata from Kolli Hills

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Toddalia aculeata is a rich source of active constituents belonging to various classes of secondary metabolites. In the qualitative screening of Toddalia aculeate, the following secondary metabolites (Flavonoids, Glycosides, Steroids, Tanins, and Saponins) were found to be present. The antimicrobial activity of methanolic leaf extract of Toddalia aculeata was studied. The studies were carried out using bacterial strains Shigella soneii, Staphylococcus aureus, Klebsiella pneumoniae, Escherichia coli, Bacillus licheniformis, and fungal organisms, Aspergillus niger, Arthrobotrys oligospora, Monilinia fruticola, Chaetomella raphigera, Candida albicians .Varied concentrations of the extract showed positive inhibitory effect on the organisms tested .The effectiveness of the extract was found to be highly significant in bacterial strains than the fungal species. Since Toddallia aculeata posses high level of antimicrobial effect and phytochemical store, the callus initiation was followed. The callus induction of Toddalia aculeata was achieved using thin sections of nodes of stems (1.0–1.5 mm) cultured in MS medium containing varying concentrations of different growth regulators/phytohormones such as Indoleacetic acid (IAA), Indole-3-butyric acid (IBA), Benzylaminopurine (BAP) , Kinetin, Gibberllic acid, and Glutamine, respectively. The callus initiation by BAP, IBA, and Gibberellic acid combination showed very high callus ratings. The BAP, Kinetin, Gibberellic acid, and Glutamine combination has good initiation of callus induction. The combination of IBA, Kinetin and IAA, BAP showed average callus initiation. Poor callus initiation was seen in the combination of BAP and IBA. Shoot development of Toddalia aculeata was achieved using various concentrations of the different growth regulators /phytohormones such as BAP, IAA, and NAA. The developed shoot parts were subcultured in different concentrations of IBA and root development was achieved. **[PO-716]**

Keywords: Toddalia aculeate; phytochemical; antimicrobial; phytohormones

A Comparative Clinical Study of Rasa Sindoor and Udumber Ghanvation Raktapradara

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Ras Chikitsa is a treatment of choice among all Ayurveda and Siddha vaidyas due to its unique qualities like effective in even small doses, durability of preparation, quick and greater action. In this study, Rasa sindoor (drug prepared according to the guidelines of Rasa Tarangani) and Udumber ghanvati (drug prepared according to Siddha Yoga Samgraha) were taken as test drugs for treating Raktapradara. Female patients aged between 15 and 45 years (reproductive age group) with cardinal symptoms of Raktapradara i.e., total amount of blood loss, duration of blood loss, and intermenstrual period were included. The patients were divided into three groups i.e., Group A was treated with Rasa sindoor 125 mg bd with honey orally, Group B was treated with Udumber ghanvati 2 vati tds with water orally while Group C was given combined therapy. Pathological investigations were also done and recorded. Assessment of the result was made by adopting the standard method of scoring the signs and symptoms. The scores were recorded before treatment and after treatment and statistically analysed. On the basis of criteria of assessment adopted, the total effect of therapy had been carried out, which revealed percentage relief as in Group A: 16.67% while in Group B: 40% and in Group C: 50%. The final inference was that Rasa sindoor and Udumber ghanvati used in combination had significant augmenting effect on Raktapradara. **[PO-766]**

Keywords: Raktapradar; Ras sindoor; Udumberghan vati; Ras Chikitsa

Clinical Evalution of Pippali (Piper Longum) in the Treatment of 'KASA'

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In present era, because of the environmental pollution, human is more prone to acute diseases. Due to irregular change of season and destruction of forests, getting fresh and healthy air has become difficult. This is the main reason why humans are suffering from repeated respiratory disorders. This also includes 'KASA' for the treatment of KASA, in the Charak Samhita Pippali (Piper Longum) is mentioned under Kasghna Mahakashay. Hence to evaluate clinical efficacy of Pippali in KASA the present study is performed. 'Dumopghatadra-atasthyva-vyayam-rukshaann- nishevanachcha vimarg-gatvachch hi bhojansya veghavrodhadhat kshavtosta-thaiva'. Because of the above causative factors, dushta pranavayu with udanvayu result in the KASA which sounds like hammering on the broken

bronze pot. Pippali and honey show significant results. From the literature review of KASA, Pippali and clinical trails with 1 g Pippali powder with honey, on the trial of 50 patients, 37 patients have got significant result, i.e., 74% which states the significance of Pippali in Kaphaj KASA. **[PO-818]**

Keywords: Piper Longum; KASA; honey; respiratory disorders

A SWOT Analysis of Antimicrobial Activity of Terminalia Chebula

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Wide spread use of antimicrobials used in various types of diseases may lead to the adverse reaction and majority of the organisms are resistant to these antimicrobials. As a result, researchers are looking at the other alternatives to combat the infection .In this regard, study was undertaken to find the antibacterial activity of the various extracts of dried fruit of Terminalia chebula against the known pathogens. The objective of this study is to evaluate the antimicrobial activity of Terminalia chebula on various bacterial stains using different dosage modalities. The antibacterial activity of Terminalia chebula was tested in three different forms: water extract, powder extract, and concentrated (Ghana) forms. They were tested against standard strains of micro organisms—ATCC Staphylococcus aureus 25923, ATCC Escherichia coli 25922, and ATCC Pseudomonas aeruginosa 27853 by using modified Kirby–Bauer's disk diffusion technique. Terminalia chebula showed greater zones of inhibition in all the three forms on various ranges. It is concluded that Terminalia chebula shows different levels of antimicrobial activity on various stains of microorganisms at different level. Details are dealt in full paper. **[PO-828]**

Keywords: Terminalia chebula; antimicrobial; dosage modalities

An Oral Ayurvedic Formulation of Liv-Pro-08 Inhibits Development of Hepatic Steatosis in Rats Fed a High-Fat Diet: Acute Study

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Nonalcoholic fatty liver disease (NAFLD) has emerged as a serious obesity related disorder and it will continue to be a major liver health issue worldwide in the coming decades. We aimed to determine the effect of Liv-Pro-08 oral ayurvedic formulation on obesity in rats with NAFLD. Rats were given high-fat diet for 7 days and after this period Liv-Pro-08 (250, 500 and 1000 mg/kg.b.wt) was administered orally for 7 days. We have examined the effect of high-fat diet on various parameters related to obesity and insulin resistance. In the experimental rats receiving the extract of Liv-Pro-08, lipoprotein profiles

were significantly (significant at 0.05 level) improved relative to those that are not receiving the extract. Also a slight reduction was observed in aspartate aminotransferase, alanine aminotransferase, and alkaline phosphatase activities. Moreover, Liv-Pro-08 significantly decreased in fasting serum glucose and fasting insulin levels. In conclusion, the experimental studies suggest that Liv-Pro-08 can act as therapeutic tool in preventing fatty liver disease and NAFLD progression (reducing hepatic lipid accumulation). Further investigation and large randomised trails will be sustained; Ayurvedic Liv-Pro-08 oral formulation may be a potential and effective drug for NAFLD in future. **[PO-836]**

Keywords: Liv-Pro-08; NAFLD; high-fat diet; obesity

Clinical Study of Guduchi and Kokilaksh in Vata-Rakta (Gout)

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Vata-Rakta is a metabolic disorder. Guduchi and Kokilaksh are easily available drugs. There are many references of Guduchi and Kokilaksh in Vata-Rakta but very few research on Guduchi and Kokilaksh have been done so far. Hence these drugs have been chosen for clinical evaluation. Study includes randomly selected 30 patients from OPD/IPD of GACH, Patna in three groups: (1) Group A: Patients treated with Guduchi Kwath, dose given 40 ml, BD; (2) Group B: Patients treated with Kokilaksh churn, dose given 5 g, BD; (3) Group C: Patients treated with Guduchi Kwath 40 ml + Kokilaksh churn 5 g, BD. Symptomatic and pathologic relief in Group A is >50%, Group B is >45%, and Group C is >70%. Statistical data and details of each criterion will be discussed in the full paper. **[PO-852]**

Keywords: Vata-Rakta; metabolic disorder; Guduchi; Kokilaksh

Evaluation of Shankhapushpi (Convolvulus microphyllus) as an Hypolipidemic Drug: an Experimental Study

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Obesity is considered to be a high priority public health problem in industrialised society. The closer association of obesity with increased mortality and cardiovascular morbidity makes obesity the second largest death-causing disease after AIDS in the present day world. Study was aimed at evaluation of hypolipidemic and antiatherogenic effects of the drug in animals fed on high-fat diet. Seven groups of eight Albino rats were treated with Shankhapushpi, Guggulipid, and controls and treated for 15 days. Blood samples were ana-

lysed before and after the treatment schedule. Study reveals that there is significant reduction in cholesterol (20.70%), atherogenic index (66.37%), LDL + VLDL (56.76%) after Shankhapushpi treatment when compared to group treated with standard drug, control, HFD control, Honey control etc. Further study on Shankhapushpi for its hypolipidemic activity will be very useful considering the alarming rise in hyperlipidemic subjects. **[PO-916]**

Keywords: hypolipidemic; atherogenic index; high-fat diet; hyperlipidemia; cholesterol

Comparison of Efficacy of Existing Ayurvedic Formulations with 'Saptgandh: 7G' for Normalizing LFT (Liver Function Tests) in Liver Disorders

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Liver disorders, irrespective of the nature, can be treated with very simple and freshly prepared oral herbal combinations, more efficiently, speedily and safely than existing ayurvedic or herbal preparations. Saptagandh, a herbal combination of 7 (in 'kalk' form) can be used in Raised LFT (Liver Function Tests) due to any cause. One dose of 'Saptgandh' is a (kalk) i.e, combination of: Shatavari (dry roots),1 g; Dhanyak (dry seeds), 500 mg; Jeerak (dry seeds), 500 mg; Erand patra (freshly collected), 2 g; Ela (dry seeds), 100 mg; Lodhra (dry), 200 mg; Yashtimadhu (dry), 250 mg powdered, combined and mixed in a mixer. Inclusions are patients of Jaundice with raised LFT may be because of Liver cirrhosis, Fatty Liver, Hepatitis B, C, Liver cancer. Age group: 1–65. Exclusions are patients with bile stones of more than 4 mm, and patients with normal LFT. Twenty five patients were given Saptgandh dose and 25 were given Syrup Liv 52: 20 ml twice a day. The response after 24 h was studied. The observations were: (1) After Syrup Liv 52, 20 ml twice a day, LFT figures came down by almost 17% whereas after a single dose of Saptgandh, it came down by >40%. (2) After Syrup Liv 52, 20 ml twice a day, urine quality improved in 8 patients, whereas after a single dose of Saptgandh, urine quality improved in 19 patients. Thus Saptgandh is found to reduce LFT figures more speedily than perhaps all other existing combinations. Further study is needed to evaluate other properties. **[PO-944]**

Keywords: liver disorders; liver function tests; Saptagandh; cirrhosis; hepatitis; fatty liver

Swarna Bhasma: Neuroendocrine and Neurotransmitter Modulation

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In modern era studies on the role of elements in health and disease have now become of global importance with spurt of research activity. Among them one such preparation Swarna bhasma has been characterized as globular particles of gold with an average size of 56–57 nm and very potent in neuropsychiatric disorders and capable of altering various biological functions. The objective of this study is to analyse the data of Swarna bhasma w.s.r. to Neuroendocrino-modulatory activity. The study analysed retrospective data of various published information regarding Swarna bhasma on cerebral palsy, autism, stress, etc. The results say that Swarna bhasma stimulates autoimmune mechanism. It is anticataleptic, antianxiety, anti-depressant, antistress, nootrophic acts on brain Catacholamines, 5-HT and plasma corticosterone. The study concludes that Swarna bhasma is an effective neuroendocrine and neurotransmitter modulatory molecule effective in respective clinical conditions. **[PO-955]**

Keywords: Swarna bhasma, Catacholamines, Neurotransmitter

Issues Related to Heavy Metal Content of Herbo-mineral Preparations

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Rasasastra is one of the branches of Ayurveda having history of about 1000 years, also known as Indian alchemy. Its Herbo-mineral formulations are time tested and having very good results in many chronic diseases. But currently, some scientists are raising few doubts about heavy metals present in rasa medicine, a big incidence happened before some days. Dr Saper published an article in Journal of American Medical Association about 'Heavy Metal Content of Ayurvedic Herbal Medicine Products'. Similarly, many wrong issues are raised about rasa-aushadhis without completely knowing about purification, method of preparation, and other aspects. Many researches are being carried out on safety aspect, physio-chemical analysis, mode of action, and pharmacokinetics of rasa medicine, which will provide answers to all negative issues. This is an attempt to collect and provide answers for those issues with help of some research papers published and some researches which are going on. **[PO-1042]**

Keywords: Rasasastra; herbo-mineral formulation; heavy metals

Production of Artemisinin in Callus Cultures of Artemisia annua L.: a Potent Anti-malarial Herb

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Artemisia annua L., a member of Asteraceae family, has been used by Chinese as a traditional drug for more then 2000 years for the treatment of malarial fever. Seeds of A. annua were germinated on Murashige and Skoog (MS) medium. Callus initiation and growth were achieved from shoot and root explants of in vitro grown seedlings in l-napthaleneacetic acid (NAA, 2 mg l^{-1}) + benzylaminopurine (BAP, 0.5 mg l^{-1}). Artemisinin was detected by using high performance liquid chromatography (HPLC). All the callus samples showed very high concentration of artemisinin with the highest level in shoot-derived callus (1.949 mg gdw^{-1}). The compounds of pathogen origin are found to cause the same response in the plant as the pathogen itself. In plant-pathogen interaction, salicylic acid was an endogenous disease resistance signal compound. In the present study, 6-month old callus was fed with different concentration of salicylic acid (0.025 mM, 0.05 mM). The highest recovery of artemisinin was at the concentration of 0.025 mM (0.549 mg gdw^{-1}) in comparison to control (0.323 mg gdw-1). **[PO-1056]**

Keywords: callus; Artemisia annuna; salicylic acid

Antiatherosclerotic Potential of Acacia senegal Seed Extract in Cholesterol-Fed Albino Rabbits

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Antiatherosclerotic potential of seed extract of Acacia senegal was studied in cholesterol-fed Albino rabbits .Oral feeding of Cholesterol (500 mg/kg BW) with coconut oil and high-fat diet induced hyperlipidaemic level (700 mg/dl) within 15 days. Animals were kept in standard environmental conditions. Oral administration of extract to atherogenic animals was 500mg /kg BW for 60 days and routinely sampled per 15 days for lipid profile improvement. Treatment with extract showed significant improvement in body weight and serum lipid profile i.e., total cholesterol 70%, Triglycerol 60%, LDL-cholesterol 60%, VLDL cholesterol 70%, HDL-cholesterol 60%, and other haematological parameters were under normal range .Toxicity assessment was also conducted through kidney and liver functions tests. Therefore, the present study reveals that seed extract of A. senegal possesses significant antiatherosclerotic potential and no adverse toxicity occurred. **[PO-1079]**

Keywords: antiatherosclerotic potential; hyperlipidemic level; Acacia senegal; toxicity assessment

Contraceptive Efficacy of Neem Seed Oil Fraction IV and Fraction V in Female Albino Rabbits: Histometrical Approach

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Ancient literature mentions the use of various plants for fertility regulation. Azardichta indica commonly known as neem also possesses contraceptive efficacy. In Ayurveda, all parts of neem such as bark, root, leaves, fruits, and flowers are used for polyherbal preparations. The present study was undertaken to observe contraceptive efficacy of neem seed oil fraction IV and fraction V w.s.r. to histometrical changes in reproductive organs such as ovary, uterus, and vagina and the counting of follicles in the ovary. The animals were given fraction IV at the dose of 28 mg/kg body wt. and fraction V at the dose of 10 mg/kg body wt. for 30 days and autopsy was done. The histometry of reproductive organs was measured by histological slides of reproductive organs and counting of different follicles such as primary, secondary, and mature by microscopic observation. The microscopic section of ovary revealed a decrease in the number of mature follicles in both cases. Similarly, the epithelial cell height of uterus and vagina was significantly reduced in the treatment group. The histological picture revealed arrest of oogenesis at primary level. It is concluded that fraction number IV and V of neem seed oil has a contraceptive potential in female Albino rabbits. **[PO-1119]**

Keywords: Azardichta indica; histometry; ovarian follicles; neem seed oil fraction IV and V

Immunomodulatory Potential of Proteins Present in Garlic (Allium sativum)†

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Ayurveda describes garlic as a 'wonder food' due to its diverse pharmacological activities. Additionally, garlic stimulates the immune system. This paper investigates the stability and immunomodulatory potential of garlic proteins. Two major proteins (12–14 kD, reducing) were isolated from garlic bulbs or aged garlic extract and identified as ASA I and ASA II. Immunogenicity was evaluated by monitoring serum IgG response in BALB/c mice (intranasal, oral). For adjuvant activity, ovalbumin (OVA) as a test antigen was co-administered with garlic lectins (intranasal, intradermal). Control group received PBS. Garlic lectins are highly stable and survive the gastrointestinal passage. A lectin-specific serum IgG response was seen upon oral administration. ASA I and ASA II show fourfold and threefold increase, respectively, in serum IgG response versus OVA (intradermal administration). Only ASA I shows a significant increase in serum IgG response versus OVA (intranasal administration). ASA I exhibits significant immunoadjuvant activity for OVA. The immunomodulatory activities of garlic proteins are contributed by the major lectins ASA I and ASA II. Dietary garlic lectins are potent immunogens upon oral, intradermal or intranasal administration. ASA I has the potential for use as an adjuvant in boosting the immune response of co-administered antigens. **[PO-499]**

†Keywords: adjuvanticity; Allium sativum; garlic; immunomodulation; lectins

Asātmya Āhāra: a Gateway to Chronic Diseases

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Energy is a prime requirement of any organism in this world. Āhāra/anna forms the main source of energy for mankind. Āyurveda says annāt puruśaha. Puruśa, the grossest form of evolution, is formed by the anna/āhāra, which, in turn, is evolved by pañchamahābhūta and the Ātma. Anna is the prā□a of prā□adhārī. Therefore, Āhāra is one among the trayōpastambha of this śharīra. Charakāchārya rightly says that one who follows Hita āhāra vihāra, jitēndriya purusha, receiving encouragement from sajjana can live without diseases up to 36,000 rātris, that is, 100 years. We also know that 'Āhara sambhava□stu rogashcara sambhavaha'. All diseases, which afflict the body, are produced from what we consume. Thus, one has to consume food according to the different factors such as prak□ti, dośha, vaya, □tu, avasthā and sātmya. The mode of action of asātmya āhara/pathogenesis is as follows: Asātmya āhāra sēvana ▶ dośha utklēśha ▶ agni māndhya ▶ āma utpatti ▶ Sroto dush□i ▶ oja kśhaya ▶ vyādhi. The implications of asātmya āhāra can be classified into two

categories, namely immediate and delayed. The diseases that are produced due to the consumption of asātmya āhāra are: Napumsakata, āndhya, vīsarpa, jalōdara, vispho□a, unmāda, bhagandara, mūrchā, mada, ādhmāna, galagraha, pān□u rîga, āma viśha (visūchika, alasaka, vilambikā), kilāsa (śhweta kuśh□a), kuśh□a roga, graha□i, śhotha, amlapitta, jwara, pīnasa, santāna dośha and m□tyu. The diseases include the Mahārōgas as explained by Suśhrutāchārya such as bhagandara, kuśh□a and udara rōga. Thus, asātmya āhāra is of great importance in causing diseases. The management of implications produced by asātmya āhāra includes Sātmikarana. Unhealthy things (anna pāna, āchāra), which have become accustomed, should be discontinued by quarter and quarter gradually. Similarly healthy things (anna pāna, āchāra) should be made use of with intervals of one, two or three days. 'Śhuddhiratrēsh□ā śhamō vā tadvirodhibhihi'. The treatment desirable for the troubles arising from consumption of asātmya āhāra is either Samśhodhana or Samśhamana opposite of their nature, that is, it is specific for a disease. 'Dravyaistairēva vā pūrvam śharīrasyābhisams k□tihi'. The body should be reconditioned as earlier by use of substances possessing gu□ās opposite to the aggravated dośhas. Āchārya charaka quotes 'People who have the knowledge of sātmya anna pāna will be never afflicted by rōga'. By this we understand that consumption of sātmya and hita āhāra protects one's life and prevents diseases, whereas consumption of asātmya āhara /anna (incompatible food substances) causes morbid conditions in the śharīra as well as manas. **[PO-1038]**

Keywords: Āhāra; Asātmya āhara; sātmīkarana; hita āhāra

Value Addition to Assam Bora Rice through Interpreting Holistic and Ethanobotanical Information for Pharmaceutical Usage

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The Assam Bora rice is glutinous rice cultivated in Assam. It has special ethnic significance in the culture of the NE India especially in Assam. It is believed that the 'Lord Siva' temple in Sibsagar district of Assam is built by joining the bricks by this rice paste along with 'Hans eggs' as cement. The Bora rice is also used in the preparation of 'Peetha', an ethnic festive dish of Assam. There also this rice serves as a major binder. Keeping in view this adhesive property of rice, it was attempted to explore its utility in pharmaceutical drug delivery systems as mucoadhesive biopolymer. The biochemical reports from Assam Agriculture University showed that the rice contains mainly amylopectin and only traces of amylase. This fact supports the adhesive and high swelling behaviour of this rice. In vitro testing in the laboratory has shown good results to scale up its use as pharmaceutical excipient in mucoadhessive drug delivery systems. The drug release studies as per Indian Pharmacopoeia showed its capability as biopolymer to encapsulate the drug material in its matrix which is capable of sustained and controlled release of drug. This paper presents the findings of laboratory experimentation supporting pharmaceutical utility of Assam Bora rice with a novel idea of interpreting holistic information to industrial usage. **[PO-1193]**

Keywords: pharmaceutical excipients; etanobotany; natural products

Reviving Arogyambu: Water as Potent Medicine for Body and Mind

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Western health practitioners frequently declare that everyone should drink at least eight glasses of water a day, rain or shine. Water bottled in plastic is standard, ice water is favored year round, drinking water while exercising is recommended. Classical Ayurveda points to clear connections between these habits and low agni, constipation, gas, heartburn, excess phlegm, and weight gain. Pure drinking water is a foundation of Ayurveda's science of ahara chikitsa. Ayurveda's classical texts and Gurukula tradition emphasize Arogyambu, water boiled then slowly reduced to one fourth. It is universally beneficial, light, and digested quickly. Sipped hot – not gulped -- it relieves gas, stimulates digestion, and alleviates kapha and vata. Sipped cooled, it alleviates pitta1. Cases observed at a clinic in Berkeley, CA confirm its efficacy2. Arogyambu embodies the qualities of less accessible Gangambu: pure rainwater that so refreshes the body, intellect and spirits that it gives the effect of drinking nectar3. Ayurveda translates the Vedic reverence for water into a detailed, health-promoting science. It includes drinking according to seasons, regions, sequencing with food and exercise, and heightened attunement to thirst. Contemporary Ayurveda practice would benefit from renewed emphasis on Arogyambu: potent, customized medicine that is natural, local, and low-cost.

Keywords: Arogyambu, Gangambu, boiled water

Making Ayurveda Affordable to All

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Ayurveda, the ancient science of life, is presently lagging behind in certain aspects. One of the reasons behind this is that it is not much cost effective among poor peoples. Ayurveda needs revolutionary and youthful thinking for its upgradation. After that only Ayurveda can prove itself as one of the beneficial systems of medicine among all. The following steps should be taken to popularize Ayurveda among the poor and help the humanity. First, we have to increase production of raw herbal drugs by increasing the cultivation of medicinal plants. Using substitutes for costly Ayurvedic medicines must be promoted. Next the use of home remedies instead of ethical and proprietary Ayurvedic formulations where possible can also help the cause. We will also have to promote the preventive aspects of Ayurveda like Dincharya and Ritucharya among people. Adravibhuta chikitsa of Ayurveda can also prove useful as it does not require any expenditure. We will have to educate people and create awareness among people about medicinal plants and their use and help them to grow medicinal plants in their surroundings. Here is an attempt to make Ayurveda affordable to all by means of poster presentation which will further encourage the humanity to accept Ayurveda as a global system of medicine. **[PO-31]**

Keywords: cost effective; Adravibhuta chikitsa; affordable Ayurveda

Commercialization of Indigenous Health Drinks through Protecting Community Intellectual Property Rights

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The survey under United Nations Conference on Trade and Development project in 25 states of India identified promising indigenous drinks worth protecting as Geographical Indications (GI), that is, Nannari from Andhra Pradesh, Kokum from Western Ghats and Burransh from Uttarakhand. These are obtained from roots of Hemidesmus indicus, fruits of Garcinia indica and flowers of Rhododendron arboretum, respectively. Manufacturing involves application of community traditional knowledge, and ethno-medicine properties are scientifically documented. Product acceptability by the retailers and consumers is high; hence, companies would be willing to market these products. But the main question is benefit sharing with traditional knowledge holders and their socio-economic alleviation. Producers are unorganized and dispersed with seasonal employment; products are not known outside restricted area. Therefore, can GI be a platform for product and market develop-

ment addressing socio-economic issues? Products have sufficient market niche due to the facts that per capita fruit juice consumption in India is only 20 ml, market demand would increase from 27.4 to 64 billion rupees by 2020 with 8.9% market growth, and 65% market share is in South India. Therefore, can registered GI accelerate the growth through market penetration? The study offers solutions/models for GI registration and business strategy with sustainable rural livelihood development. **[PO-33]**

Keywords: Geographical Indication; health drink; IPR; traditional knowledge

An Attempt to Explore the Hidden Realm of Ayurvedic Cuisine

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Importance of Ahara:Ayurveda says that life of human being is supported by three pillars viz. Ahara (food), Swapna (sleep), and Abhramacharya (indulgence in sex). The first among the three is ahara and it is the sole reason why Acharyas have given due importance to the culinary section of Ayurveda. The Ayurveda cuisine is designed in such a way that it provides energy not only for body, but also for mind and soul. Types of Food: Diet is considered to be vital for human body as it provides the basic nutrients which are necessary to carry out the basic activities of the digestion and metabolism. No Single Diet: Though different kinds of diet are suggested in Ayurveda, there is no specific diet which can be said to be ideal for every human body. Each diet can be formulated from person to person according to one's doshic constituency. Good Food Habits: Other than what we intake there are certain other factors that are mandatory to be inculcated in our food habit, if we want to remain healthy and active for a long time. As Hippocrates said 'Let your food be your medicine, and your medicine be your food.' **[PO-235]**

Keywords: ahara; food; cuisine; Ayurveda diet

A Policy Approach for Making Ayurveda Affordable to All

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Contemporary Ayurvedic practice is perceived to be highly cost intensive and ill affordable to poor masses. Too much commercialization, lack of proper policy directions, over dependence on few multi-ingredient formulations and negligence among practicing vaidyas towards application of foundational concept of Ayurveda in understanding and management of diseases are among the major causative factors for this unviable scenario. This paper aims to throw a light on hitherto neglected indications of commonly available plants described with sufficient details in classical Ayurvedic literatures and ways and means to bring them in to day-to-day clinical practice. Most of the plants that are discussed in

this paper are weed varieties, unexploited by-products in day-to-day agriculture and road side trees and plants. It also discusses the effective, simple and cheaper alternatives to most commonly used formulations by replacing them with formulations with lesser and cheaper ingredients. The paper also highlights how cost and number of prescriptions can be reduced by rational application of basic concepts with practical illustrations. The paper discusses about existing legal frameworks and their enforcement in India as relevant to the topic and proposes new policy initiatives to make Ayurveda affordable to common man. **[PO-542]**

Keywords: common plants; weed varieties; agricultural by-products; affordable Ayurveda

Ayurveda on Diet (Ayurvediya Aharam)

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Ahara, Nidra, and Brahmacharya are the three pillars of life. Food is the main source of energy required for the body. The principle of balanced diet was known to Ayurveda. The comprehensive food list includes various kinds of vegetables, grains, pulses, milk and honey. Their effects on the body are also mentioned in detail. Milk and its products are given special attention. Ayurveda recommends special diet for each season and to suit the physical taste of the individual. About individuals, special attention is paid to the expectant mother and the child. One should take food when he is hungry. The method of taking food is also described in detail. Charaka says "Diet should protect health and prevent onset of disease." Food exercises a tremendous influence on the mind and the temperament of the individual. Ayurveda gives great importance to pathya (diet) in the treatment of diseases. **[PO-657]**

Keywords: Ahara; Nidra; Brahmacharya

Rasayana: Paedritics to Geriatics

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Rasayana are the herbal preparations that nourish the dhatus at all the levels corresponding to its growth by enhancing the ability to bring out the best. Rasayana rejuvinates means making young again. Rasayana is given to small children as tonics and are also taken by middle aged and elderly people to increase longevity. Rasayana affects the body in a general way, i.e. they may affect the immune system rather than lungs. The drugs used in rasayana therapy detoxify rejuvenates the body and reverse the degenerative changes. Rasayana like bramhi, shankhpushpi, Mandukparni, guduchi are some of medicines which boost memory and intellect. Amalki, ashwagandha, and shatawari are proven to be good. Through Rasayana one attains excellent memory skill and intelligence and will be free of disease; it will help in maintaining youthfulness, complexion, strength of sense organs and physique and longevity. It enhances the digestion and metabolism by normalizing Agni and promoting the competence of channels. Rasayana in different age groups give special benefits. Rasayanas do not lose their potency. Women's rasayana is particularly useful for balancing biorhythms and emotions and is suitable for women of all ages but is not recommended during pregnancy. **[PO-41]**

Keywords: rasayana, rejuvenation, immunity, longevity,

Evaluation of Free Radical Scavenging Activity of Butea monosperma

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Recent researches are highly focussed on unexplored traditional plant extracts and its application in stress-induced disorders. Findings that show oxidative damage shares a considerable role in generation and progression of many diseases such as atherosclerosis, cancer, diabetes mellitus, and so on, draw more attention towards formulating plant extracts which can scavenge unwanted free radicals and maintain a redox balance. In this aspect, a traditional Ayurvedic plant Butea monosperma was evaluated for its potent antioxidant efficiency by in vitro assays. The different extracts of bark of Butea monosperma, such as methanolic, ethanolic and aqueous extracts were analyzed for antioxidant efficiency using 2,2 diphenyl-1-picrylhydrazyl (DPPH) radical, nitric oxide radical and superoxide anion radical. From the results, it can be observed that methanolic extract show potent antiradical activity by scavenging DPPH radical with an IC50 value of 16.66 µg/ml, and aqueous

extract was found to exhibit better inhibition of superoxide radical and nitric oxide radical with an IC50 value of 64 and 158 µg/ml, respectively. The results are significant when compared with that of standards. Further studies can draw more light on the biological significance of the extracts in vivo and in vitro. **[PO-45]**

Keywords: Butea monosperma; diabetes; oxidative stress; free radicals; antioxidants

Common Problems in Geriatrics and Ayurvedic Approach Towards Healthy Ageing

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As the life expectancy of human being is increasing, the proportion of geriatric population is also increasing. There are many geriatric problems which need special care and preventive measures. Ayurvedic therapies, Yogas and naturopathy can help in healthy ageing. The main aims of this study are (1) to find common problems in geriatrics and (2) to suggest Ayurvedic measures for healthy ageing. **[PO-59]**

Keywords: geriatric; ageing; Yoga

Immunomodulatory Activity of Urai Mathirai: Siddha Formulation

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India is the world's biggest democratic country and such a country's pillars are our children whose health should be taken care by building up their immune response to tackle different diseases so that the geriatric problems become less in their future. Urai mathirai, the nature's gift, a Siddha formulation, is given to the children which not only cures the disease but also provides adequate immunity to them. The ingredients of Urai mathirai possess the quality of immunomodulation. The mode of action, phytochemical constituents, immunomodulatory activity will be discussed later on. **[PO-85]**

Keywords: Siddha; immunomodulation; Urai mathirai

Quorum Quenching and Antioxidant Activity of Selected Common Medicinal Plants

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Nature has bestowed medicinal plants with a diverse array of secondary metabolites, which has benefited human beings to ward off a majority of diseases. A study was carried to study the antioxidant and quorum quenching activities of selected common medicinal plants namely Ocimum sanctum, Coleus aromaticus and Mentha arvensis. The DPPH study showed that the chosen plants exhibited antioxidant activity by scavenging the radical. The increasing concentration of the plant extracts showed increasing antioxidant activity. The quorum quenching activity studied against selected pathogenic microbes showed that the selected medicinal plants inhibited quorum forming processes namely AHL production, pigment production and biofilm formation. The inhibition of the quorum forming processes was observed with increasing concentrations of the plant extracts. It was also observed from the studies that quorum quenching was achieved with lower concentration of plant extracts. The potentiality exhibited by the chosen medicinal plants with quorum quenching and antioxidant activities suggests them to be ideal candidates for therapeutic drugs which at this time are a compelling necessity. **[PO-805]**

Keywords: antioxidants; quorum quenching; medicinal plants

Immunomodulatory effect of Bhringrajasava w.s.r. to Dhatu-Kshaya

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From ancient era, the concept of immunity is well known. Acharya Caraka describes immunity in brief. It is better to boost immunity than to cure disease. It is the ultimate goal of Ayurveda, the ancient life science. There are many immunomodulatory drugs described in ancient Ayurvedic texts, such as Haritaki, Amalki, Guduchi, and so on. I had taken Bhringaraj as an immunomodulary drug, especially its formation product, called Bhringrajasava. Bhriangraj (Eclipta alba) is applied as keshya rasayana, as well as for inter-anal use in ancient period. But nowadays, it is only limited for the external applications in the forms of medicated oils for Geriatric purpose (To colour the hairs only or to improve its texture). Besides this it has a very good immunity booster property. As alcoholic preparations, that is, formation products Asava and Arishta enhance the activity of the drugs. Hence, I take

its preparation form G.N. (Gadanigraha) Dhatukshaya adhikar. Dhatukshaya can be correlated with impaired immunity.When Bhrigrajasava was administered in patients suffering from malnutrion, there is significant increase in immunity and increase in body weight. The trial was carried out on 30 patients. **[PO-857]**

Keywords: Bharat Bhaishj Ratanakar; Gada Nigraha

Shiva Gutika: a Rasayana from Paediatrics to Geriatrics

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Shiva Gutika contains Shilajit as a main ingredient. Shilajit is the master rasayana in various ailments. Its preventive, curative, promotive, restorative and adaptogenic effects are well documented in classical texts of Ayurveda. Shilajit contains fulvic acid, humic acid, 85 minerals in ionic form, and so on. Fulvic acid is microcellular detoxificant and internal environment modifier. Hence, Shilajit is prebiotic, probiotic, antiaging, nootropic, cellular rejuvenator and potent enough to combat various Psycho-neuroimmunoendocrinal crisis. Objective: To assess the rasayana effect of Shiva Gutika in various degenerative and immune compromised conditions. Hypothesis: H1 Hypothesis is that the prospective outcome of Shilajit-based rasayana would be effective in all age groups of various clinical conditions. Methodology: Retrospective data is collected and analyzed regarding the patients who consumed Shiva Gutika as Vatatapika Rasayana in a specified dose and long-term follow-up was performed. Result: The patients of CPMR, DMD, Balapakshghata, Dhatukshaya-janya and Avaranajanya Vatavyadhi, Granthi and Arbuda have shown encouraging results. **[PO-965]**

Keywords: rasayana; Shilajit; fulvic acid; prebiotics; probiotics; adaptogen; CPMR; DMD

Geriatric Ophthalmology and Rasayana: Ayurvedic Perspective

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Aging is a process of physiological, psychological and social change in multidimensional aspects. As like the other structures of human body, it is obvious and inevitable that the eye is also involved with various ailments leading to the manifestations of different ocular

diseases in old age. Among them important diseases are cataract, presbyopia, glaucoma, age-related macular degeneration, diabetic retinopathy, and so on. The pathological lesions in old age according to ayurvedic concepts are swabhavika vyadhis, and it is difficult to cure completely so with an intention to delay the aging process acharya recommended to start rasayana therapy in middle age. Rasayana becomes more fruitful and effective if it is preceded with suitable panchakarma. Independent of doshik status, triphala is advisable to all patients with diminished vision, along with honey and ghee in asama matra which acts as rasayana. Acharya also advices different methods of administration of triphala. The basic concepts such as chakshushya, which is a major contribution of our science, can play a role in preventing such changes among ocular components. As the geriatric problems are not attributed to a single cause, the treatment should be planned according to the stage of the disease and the involved dosha. On the basis of that we are treating the disease by applying classical ayurvedic measures along with kriyakalpas. Intake of rasayana in middle age followed by panchakarma, adopting pratimarsha nasya, dhoomapana, gandoosha and anjana as dinacharya, administration of medication at the early stage of disease are helpful in delaying or arresting the senile ocular conditions. **[PO-1046]**

Keywords: Triphala; chakshushya

Role of Rasayana in the Management of Geriatric Ocular Diseases

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Every country has its own traditional cure for its diseases, and Ayurveda the oldest living health tradition of our country has gifted a unique potential therapeutic concept Rasayana to the entire world for the welfare of human beings. The ophthalmic conditions that are affected with ageing mainly are cataract, glaucoma, age-related macular degeneration, diabetic retinopathy, retinitis pigmentosa, and so on, for which the modern system of medicine has unsatisfactory treatment and the entire world is looking towards other systems of medicine to tackle the situation. A lot of research works have been undertaken to study the mode of action of Rasayana drugs, and it is believed that Rasayana drugs act in the cellular and sub-cellular level. Thus, the Rasayana approach provides drugs with a diversified effects viz. antioxidant activity, immunomodulatory, regenerative, adaptogenic effects, and so on; hence, Rasayana may be judiciously used to treat the senile problems of the eye. The present paper is an attempt to explore the therapeutic potentials of Rasayana Aoushadi in treating geriatric ocular diseases. **[PO-1094]**

Keywords: rasayana; cataract; age-related macular degeneration; retinitis pigmentosa; antioxidants

In vitro Antioxidative Activity of Bark, Root and Leaves of Azadiraca indica and Melia azedarach by DPPH Scavenging Assay

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The multi-solvent extracts (aqueous, methanolic and ethanolic) of root, stem bark and leaves of two medicinal plants, that is, Azadirachta indica A. Juss and Melia azedarach of Meliaceae family were assessed for antioxidant activity in vitro using the 2,2-diphenyl1-picryl hydrazyl (DPPH) scavenging assay. The dry powder of bark, root and leaves of the two neem tree were extracted using soxhlet extraction followed by vacuum rotary evaporator method. The extracts were tested for antioxidant activity using DPPH scavenging assay. Total phenol contents of extracts were also determined by folin cicalteu reagent method. The results showed that the crude extracts of stem bark in both the plants exhibited higher free radical scavenging activity with 50% scavenging activity followed by root and leaves. The results also showed that all plant parts of the Mahaneem (Melia azedarach) exhibited higher antioxidative activity than neem (Azadirachta indica). Because of high crude extract, phenolic concentrations of bark, root and leaves of Melia show a positive correlation with antioxidant capacity. Similarly IC50 values of bark, root and leaves of Mahaneem was as low as ascorbic acid. The plant Mahaneem and its plant parts may be exploited in clinical medicine as potent factor because of its high antioxidant activity. This report supports the ethnomedical use of bark, root and young leaves of this plant as a leafy vegetable and for medicinal purposes to promote good health. **[PO-1136]**

Keywords: Mahaneem; neem; antioxidant

Comparative Antioxidant Activity of Curcuma longa and Curcuma aromatica by DPPH Scavenging Assay

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Turmeric cultivation in India occupies 60% of the total area intended for spices and condiments. It is a popular spice derived from the root of Curcuma longa L. Rasmi and Curcuma aromatica Salisb members of ginger family. The powder and its active principle, a group of curcuminoids, are widely used as culinary spices, preservatives, food additives, cosmetics and oleoresin in food and pharmaceutical industries. In the last two decades, there has been considerable interest among the biochemical scientist to explore the possible therapeutic benefits of turmeric and its active principle, curcuminoids. The present study aimed at investigation of the phenolic content and radical scavenging activity by DPPH method and assessment of curcumin content of the rhizomes spectrophotometrically in both the Curcuma species to establish its potential as a therapeutic agent for many chronic diseases. Crude extracts of C. longa and C. aromatic were obtained by using water, methanol and ethanol solvents. Total phenolic contents of extracts were also determined by folin cicalteu reagent method. The ethanolic fraction of Curcuma longa gave the highest yield, that is,

3.35 g of rhizome and showed highest radical scavenging activity, that is, 74.61 ± 0.02 due to the presence of high amount of curcumin and phenolic content. In comparison with C. longa, C. aromatic showed less amount of yield and low radical scavenging activity due to the presence of fewer amounts of curcumin content and phenolic content. **[PO-1137]**

Keywords: Curcuma longa; folin cicalteu; Curcuma aromatica

Pathyapathya in Jara, Rasayana: Pediatrics to Geriatrics

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The present scenario of elderly is that they have many number of years added to their life, but they would not be having hitayu and sukhayu. This is not the aim of Ayurveda. Crossing the life successfully, which means healthy, should be the motto. Adding life to years, not years to life, should be the motto. Life is dependent on ahara and vihara (a known factor), which when implied strictly in one's life finally makes an elderly to rest in peace. The moment anything is born, its starts aging. This is nithya and satya. The man, like every living thing, during this process comes across so many changes. The changes and transformations should take place at prescribed time, anything happening prior is considered unhealthy. Jara has to be faced, but not premature Jara. Seeing the above points, it can be inferred that the pathyapathya in Jara has to be applied for four aspects. (1) To delay Jara avstha. (2) To cross it successfully. (3) To avoid vardhakya disorders. (4) To add quality to life. This is a conceptual study based on the references from various ancient literatures, recent books, papers, journals, and so on. Jara, a swabhava samsiddhi laxana, can be successfully achieved and crossed by following the principles laid down in our treatises regarding pathyapathya. **[PO-1151]**

Keywords: Pathyapathya; Vardhakya; Jara

Clinical Trial and Pharmaco-Vigilance in Ayurveda

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Ayurvedic classics provides detail and clear descriptions regarding action of individual drug and formulations; to know the efficacy and adverse reaction, clinical trial as well as knowledge of pharmacovigilance play an important role. Clinical trial is a systematic study of new drug in humans to generate data for discovering or verifying the clinical pharmacological and adverse effects with the objective of determining the safety of the human beings and new drug; with these factors in mind, efforts have been made to improve the quality of reporting of randomised clinical trial. The objectives of clinical trials are categorised under four phases, and reporting trial statement consists of 22 check lists. The term pharmacovigilance refers to the process of identifying and responding to issue of drug safety through the detection in the community of drug effects, usually adverse. There may be some logical application possible to monitoring drug safety; some of the principle methods of collecting data on adverse reaction are (1) experimental studies and (2) observational studies. **[PO-31]**

Keywords: clinical trial; pharmacovigilance

Issues Related to Rasa-Aushadhies

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Rasa-shastra is a much specified branch, which is concerned with widespread manufacturing and use of the metals and minerals in therapeutics. These herbo-mineral or organo-metallic compounds are known as 'Rasa-aushadhies'. These rasa-aushadhies cure not only ordinary curable diseases but also the incurable ones that too with very minute doses and without any untoward effects. But there are many issues which defame our rasa-aushadhies in the present era. Though Rasayogas are very effective, specific formula should be selected for particular disease for manufacturing. Nowadays, it's very difficult to procure genuine and potent raw material for manufacturing of drugs. And further, problems of adulteration and substitutes for drugs are coming forward. Furthermore, processing on these materials is not following textual guidelines, which again defame rasayogas, as they are unable to give results as mentioned in Granthas. These rasa-aushadhies are not being prescribed in proper and classical way to the patients. The suitable doses, period and anupana are not thoroughly explained to the patients. Meanwhile, the research article published in December 15, 2004 in JAMA, reported the toxicity of heavy metals in Rasa-aushadhies and

thus therapeutic index of rasa-aushadhies became a burning topic in this era. But modern science is unaware of this fact that, manufacturing of rasayogas consists of processes such as Shodhana, Jarana, Marana and Amritikarana which render the substances free from toxics if present and easily assimilable in the body. Solutions regarding these and more issues will be discussed in paper. **[PO-80]**

Keywords: Rasashastra; genuine raw material; manufacturing; toxicity

Specifications for Ayurvedic Formulation Triphala Churna

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Triphala churna is one of the easily available ayurvedic formulations sold as OTC drug and is used as home remedy for constipation. It is a powdered preparation made with fruit pericarp of three ingredients, Emblica officinalis (Amala); Terminalia belerica (Behada); Terminalia chebula (Hirda) in equal proportion. The raw material was procured from commercial supplier, identified botanically and complied as per API (2). Triphala churna was prepared as per Ayurvedic Formulary of India (In-house sample). It was tested as per API guidelines. Parameters such as organoleptic characters, microscopy, physicochemical analysis, TLC studies and estimation of total tannins (gallic acid) as an active ingredient, microbiological study, heavy metals, and presence of Aflatoxins (B1 and B2) were studied. Market samples of Triphala churna were procured for comparison. In the present study, an attempt is made to develop the specifications for Triphala churna. **[PO-89]**

Keywords: Triphala churna; standardization; gallic acid

Role of Pharmacovigilence in Ayurveda

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In last few decades many modern drugs have been withdrawn from the market because of their serious adverse drug reactions. These all have proved the need of some active cell, which deals with the problem related with drug and then the branch known as pharmacovigilence was established, which deals with identifying the side effects of the drug, their treatment, documentation, reportage and regulatory decision based on them. Because clinical trials involve several thousands and patients at most, less common side effects and ADRs are often unknown at the time of the entry of a drug to the market. Even ADRs such as liver damage are often undetected because study population is small. Post-marketing pharmacovigilence uses tools such as data mining and investigation of case reports to identify the relationship between drug and ADRs. In Ayurveda also, references regarding adverse effects of the drug are available in the form of Dhatupradushana Dravya, Bheshaja, Abheshaja, etc.. The mechanisms of ADRs have also been noticed by various Acharyas as satmya, pathyapathya in particular disease, concept of 'viruddh ahara,' etc. The factors which affect the

causes of ADRs have also been observed like kala, Desha, Matra, Prakriti, etc. By viewing all the aspects it can be stated that Ayurveda has the broader concept of pharmacovigilence, which will be discussed in the full paper. **[PO-191]**

Keywords: pharmacovigilence; ADR; Dhatupradushana Dravya; Abheshaja

Validation of Bhasma Preparation w.s.r. to Tamra Bhasma

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Validation plays a vital role in all branches of science. Our uninterrupted practice of Ayurvedic system for last several thousand years confirms the stability of our tradition. Drug like Tamra Bhasma is a versatile Rasaushada, an ingredient for various formulations like Arogyavardhini rasa, Chandrakala rasa, Ekangaveera rasa, etc., common in practice. Wilson's disease is an autosomal recessive genetic disorder in which copper accumulates in tissues, treated by reducing copper absorption/removing excess copper from the body. In our classics Arogyavardhini rasa is indicated in Yakrit Vikara. Tamra is considered as Visha if not used properly as it causes Ashta Doshas as Vanti, Bhranti, Chittasantapa, Shosha, Gadotkleda, Aruchi, Daha and Moha. It is synthesized by a variety of methods in Ayurveda involving the use of Kajjali, Gandhaka and plant materials. As a consequence of variation in processing it is difficult to know if Tamra Bhasma prepared by different methods is identical or not. The success of preparing a genuine Ayurvedic Bhasma depends on a technique. Normally large number of calcination cycles is necessary which make the procedure complicated and tedious. Due to increase in demand Ayurvedic pharmacies are expanding for commercialization of Ayurvedic drugs. Hence validation becomes a necessity here. **[PO-274]**

Keywords: validation; Tamra Bhasma; calcinations; Ashta dosha

Heavy Metals in Ayurvedic Medicines

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Rasa Shastra deals with oushadhi which are metals, mineral and herbal poisons; they are subjected to various processes like sodhana, marana etc. before internal administration. Rasaoushadhis are presumed unsafe, as they are toxic in nature and cause heavy metal toxicity after consumption. It was also claimed that there was deliberate mixing of heavy metals in Ayurvedic medicines, which were branded as herbal and safe. Usage of heavy metals after improper processing and against classics might prove toxic, else are safer and effective. The

basics of entire subject can be explained with modern chemistry to other system of medicines with modern perspective. In this paper an honest attempt has been made to put forth to clear the myths that usage of heavy metals after proper processing are safe in Ayurvedic medicines. **[PO-674]**

Keywords: Rasaoushadhis; heavy metal toxicity

Importance of Pharmacovigilance in Ayurveda

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Ayurveda is an everlasting supreme science for maintaining positive health. Though the technical term 'pharmacovigilance' doesn't seem to be mentioned in classical texts, but importance of this concept can't be ignored. Pharmacovigilance is important, integral part of clinical research and critical throughout the product life cycle. Its main objectives are safety and efficacy of drug in use, signal detection and risk management. Very few scientific data on clinical trials and reported adverse reaction of ayurvedic drug is available: no rules and regulation for the collection of crude herbal drugs, substitutes and adulterants are used for genuine drug, and lack of quality control over manufacturing process. To overcome this, GCP, GMP, and process standardization should be followed, scientific valedictory work along with correct ADR reporting should be done and published, biological studies, data preservation, funding for pharmacovigilance should be done. Making pharmacovigilance reporting mandatory, building CROs for ayurvedic clinical trials, a department for pharmacovigilance should be incorporated for ayurvedic drugs. Pharmacovigilance should be introduced in the academic syllabus of Ayurveda. Motivation should be given to ayurvedic pharmaceutical companies to focus on pharmacovigilance of ayurvedic medicines. This paper will briefly discuss causes, need and challenges in introducing pharmacovigilance system to Ayurveda. **[PO-854]**

Keywords: pharmacovigilance; adverse reaction; signal detection; risk management; CRO; GCP; GMP; ADR reporting

GMP: a Pathway to Global Market

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Ayurvedic products have varieties in colour consistency, shape, size due to various SOPs and formulas of preparations. This makes a big dilemma for international market as all the countries worldwide accept manufactured and marketed medicines according to international norms and guidelines. So a concept of GMP introduced in June 2000 is bold

enough for ayurvedic products to give it a global acceptance and market.GMP as the part of quality assurance ensures that the products are consistently produced and controlled to the quality standards appropriate to their intended use and required by the marketing authorization.GMP is the word ofWHO to be followed in general by all the drug manufacturers across the world, e.g. cGMP by USA, GMP in the orange guide by UK etc., hence, GMP will definitely be useful to enhance the herbal market internationally. The subject of paper elucidates the various GMP methodologies to be followed during all the stages of ayurvedic drug development and manufacturing considering various regulatory issues in different countries. **[PO-1101]**

Keywords: GMP; cGMP; Quality assurance; SOPs

Increase of Shelf-ife of Decoction by Pasteurization and Sterilization (Tripala Quatha)

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Almost all ayurvedic drugs are of herbal nature and make significant contribution in many fields including food technology. After harvesting, raw materials may undergo spoilage due to metabolic changes, mechanical injuries, pest attacks, etc. Spoilage can also be resulted soon after the processing or due to exposure of products to the environment. Similarly decoctions can be spoiled after 2–3 days from the preparation date becoming sour in taste. These preparations can be of different quality and may be harmful for patients. Therefore, finding a method or a technique which can be used to extend the shelf-life of these products is of primary significance. A study was carried out to investigate factors affecting the spoilage of thripala, one of the most popular decoctions prescribed for many health complications. In this study, a special emphasis was given to shape of containers, cleanliness of raw materials and different heat treatments in order to minimize the spoilage. Hence, the decoction was prepared in good hygienic conditions and was hot filled into glass bottles which were subsequently sterilized by steam. The drug can be preserved for a period of one month when the bottles were filled by hot-filling method. The decoction is heated to 95 °C and filled into the sterilized narrow mouth bottles keeping the temperature at 95 °C and sealed. Under proper sanitary storage conditions these bottles can be stored for more than two weeks. These sealed bottles subjected to steaming have extended the shelf-life for one month.

Keywords: food technology; decoction, shelf-life

Information and Communication Technology: a Gateway to Bring the World Closer to Ayurveda

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It is of no surprise that information and communication technology has brought people closer, shrinking the world into a global village, and its effect on the global scenario of Ayurveda is even more palpable. At the advent of 21st century, Ayurveda has emerged as a sunrise sector in healthcare, and along with increase in its awareness, the expectations, demands and challenges faced by Ayurveda have increased manifolds. The main concern here is how information and communication technology can help in optimal development and propagation of Ayurveda. Our goal is to make judicious use of this technology in various aspects of Ayurveda so as to provide better diagnosis and treatment; to enable clarification of intricate terms and topics dealt in Ayurveda in a modern light; to prove a platform for dissemination of factual information regarding Ayurveda to global audiences; and most importantly to help Ayurveda to propagate and transform into a mainstream healthcare system from a complementary system of medicine. The secrets and concepts of this human life science which is saving the suffering humanity since pre-vedic period till date will be highlighted in the conference for all the scientists working in the field of medical science. **[PO-730]**

Keywords: Ayurveda; propagation; yukti; aptopadesha; pratyaksa

Internet Information Resources in Medicinal and Aromatic Plant Sciences: an Appraisal

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The supremacy of herbs is known to humans since time immemorial. Our country is well known for effective herbal remedial measures for various diseases and disorders. After achieving food security, attention was given to nutritional security, but now it has become inevitable to look for health security and human well-being. Our country is bestowed with wonderful biodiversity, offering multiple resources for health security and human well-being. Various institutes are working in the field of medicinal and aromatic plants sciences and some universities are offering post-graduate programmes on these sciences as well; however, a lot more needs to be done. The knowledge of medicinal and aromatic plant sciences is often limited and localized. Efforts have been made to disseminate this information through books, manuals, monographs, etc. Recent developments in internet technology have made this literature globally accessible in digitized forms. These resources can be updated and shared at all times. Information retrieval and information dissemination have become ever easier with the increased usage of the internet. The use of internet as

a source for information on medicinal and aromatic plants has grown very fast within past few years. Furthermore, future Indian herbal medicine research, education and popularity will grow further if more and more authentic information is made available on the internet and is used timely, effectively and judiciously. This paper is an effort to present issues related to the use of the internet for getting information related to herbal resources/medicinal and aromatic plants. **[PO-77]**

Keywords: internet; information; medicinal and aromatic plants; electronic;

Marketing Instruments of Introducing Ayurveda: research for Possible Steps

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Ayurveda is not well known in Hungary,perhaps due to lack of expertise and information. Based on survey data, this paper examines the reputation of Ayurveda in Hungary. In order to make Ayurveda popular in Hungary, the paper proposes the following strategy: (1) make two parts of marketing instruments for introducing Ayurveda: for experts and general public and (2) reduce the doubts about alternative therapies, especially Ayurveda by providing information about its scientific basis. Low reputation of Ayurveda makes possible to establish a brand new image, which can represent our conception relatively among free compass of marketing instruments.

Keywords: marketing solution, scientific basis, research, reputation of Ayurveda

Popularising Ayurveda in Italy

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Ayurveda in Italy – Indexing Centers Ayurveda (article published in Italian magazine;Espresso, 18 March 2010 author Catherine Visco). 'The Experts estimate that 1 percent of Italians, 600,000 people, has gone through and aimed at Ayurveda for their well-being and also operators and Ayurvedic doctors. Of course a small part of that 23.4 percent, (according to the Census 39%?) relied on a non-conventional medicine, but if you think an army supply referenced to the scarcity of centres that practise really is Ayurveda.' Integration between Western psychology and Ayurveda (manasaroga). Those who practise as a massage therapist and is inevitably in contact with the dynamics that occur in the operator-customer relationship, hence the need to work on the professionalism and management of emotion in massage. Ayurvedic practitioner for proper diffusion of Ayurveda. Prevention and Health Promotion. The operator (practitioner) does not deal with Ayurvedic disorders or disease processes, its task is to strengthen physically, mentally and emotionally so that the individual can experience very much his state of well being. The operator works on Ayurvedic healthy person creating prevention and wellness. The role is to advise Ayurvedic welfare, educating the person to prevent, and preserve their welfare.

An Assessment of Manasika Bhavas in Menopausal Syndrome w.s.r. to Rajonivritti

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The phase of "Menopause" has a great importance and influence on a woman's physical, psychological, social, as well as emotional existence. Menopause is regarded as one of the important stages in a woman's life. Not every woman passes through a torrid time during this phase but each and every female surely knows about the negative changes associated with the onset of the menopause. Hot flushes, lack of energy, anxiety, depression, mood swings, and so on, are some of the symptoms. In the present study, an effort has been made to assess the Manasika Bhavas (psychological changes) associated with menopause in 48 patients based on the Ayurvedic parameters, Hamilton's Anxiety Rating Scale and Hamilton's Depression Rating Scale. **[PO-58]**

Keywords: menopause; woman

Scientific Analysis on Role of Basti in Male Infertility

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Clinically significant proportions of couples experience difficulty in conceiving a child. In about half of these cases, male infertility is the cause. To solve this problem, latest modern reproductive techniques are available. However, they are expensive and have limitations. Hence, global population is looking towards Ayurveda for an effective alternative. Basti, one among penta biopurificatory procedure, has proved to be a successful tool to treat male infertility. Male infertility is usually due to shukra dosha manifesting as oligozoospermia, asthenozoospermia, pyospermia, azoospermia or due to abnormal functioning of hormones such as FSH, LH, testosterone, oestrogen and prolactin. Sometimes attributes of Shukra may be normal but could be due to infection or blockage in male genital tract, as in orchitis, epididymitis, and so on. Occasionally male infertility may be due to presence of anti-sperm antibodies. Hence, objective of this paper is to scientifically analyse and evaluate role of clinically practiced different vrishya and vajikara bastis advocated in Ayurveda, under the light of currently available research data and results. An attempt is made to scientifically explain mode of action of basti in male infertility. Some clinically useful basti formulations

and rationality behind their administration to achieve successful result in different abnormalities of shukra are discussed. **[PO-630]**

Keywords: male infertility; oligozoospermia; Shukra dosha; basti; hormones

Agnikarma: the Pharmacological Perspective

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Agnikarma is one of the interventions which is given profound significance in invasive Ayurveda. The procedure involves inflicting an intentional tissue burn. It is well appreciated that Agnikarma has more venues than merely providing a local effect or haemostatic function. The Agnikarma-induced analgesia still remains an unexplained phenomenon, though practically experienced. Researches intended to provide a possible explanation to the pharmacological action of Agnikarma are almost nil. A parallel and almost similar technique that exists in East Asian medicine is the moxibustion. The sites mentioned for this intervention for particular disease and the basic method seem to be identical to that of Agnikarma mentioned in Ayurvedic Samhithas. The matter of interest is that ample researches have been and are being carried out to understand the action of moxibustion. The present venture aims at a comparison between Agnikarma and moxibustion, accompanied with an exploration through scientific research material in moxibustion with an intention to pave the way for clarifying the dogma of the pharmacological action of Agnikarma. Such studies may provide a scientific explanation to the action of Agnikarma or to the least may open up some new path to direct the concerned studies. **[PO-676]**

Keywords: Agnikarma; moxibustion

Scientific Interpretation of Medhaya Rasayana Dravya

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Ayurveda is the oldest system of medicine in the world; its antiquity goes back to the Vedas. It adapts a unique holistic approach to the entire science of life, health and cure. The areas of special consideration in Ayurveda are geriatrics, rejuvenation, nutrition, immunology, genetics and higher consciousness. Rasayana is the one of the eight branches in Ayurveda which provides the optimum quality to the body tissues, promotes both physical and mental health and prevents ageing and diseases. This therapy enables the person to live for a longer youthful life. Medhya Rasayana is a type of Kamya Rasayana. Medhya Rasayana dravyas nourishes the brain cells by supporting the nervous system and enhances co-ordination and memory power. These are good for students as it increases retention and recall.

Some of these Medhaya Rasayana are Withania somnifera, Asparagus racemosus, Convolvulus pluricaulis and Tinospora cordifolia which are commonly prescribed by Ayurvedic practitioners for improving the memory and learning. Here is an attempt to present the scientific interpretation of Medhaya Dravya Rasayana with the help of clinical and experimental studies. Details will be discussed at the time of full paper presentation. **[PO-713]**

Keywords: learning; memory; Medhya Dravya

Herb–Drug Interaction and its Impact on Geriatric Health Care: a Short Analysis

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Ageing, which is an inescapable reality of the human existence on the planet earth, plays a crucial role in the global demographic transition. The objective of our study was to identify the range of herbal health products and conventional drug therapies and potential interactions between them which are used by older people (aged 60 years and over). Personal experiences from various reports on medical index journals were reviewed. India is an enchanting country; Ayurveda our own contribution to the world became an alternative for us. Longevity is a spectacular achievement of our country where old people contribute 113 millions approximately 10–12% of our entire population. Old people are increasingly using Ayurvedic products in combination with prescribed drugs without advice of their doctors, which might raise the potential of herb–drug interactions. Herbal medicines are widely used. Almost one-third of current users of herbal medicines are at risk of herb–drug, drug–drug and food–drug interactions. Physicians and other health care providers should be aware of potential herb–drug interactions and should monitor and inform their patients accordingly. **[PO-829]**

Keywords: geriatric population; herbal product; drug interaction

Effect of Guda Pippalimula Yoga on Nidranasha w.s.r. to Primary Insomnia

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Nidra is the most neglected part of modern lifestyle where one gives least importance to the timing, duration and quality of sleep with stress playing an important role in inducing insomnia. This negligence is leading to Vata Prakopa and in turn causing various physical and psychiatric illnesses. Holistic management of Nidranasha is the need of the day and Ayurvedic professionals need to re-evaluate the management of Nidranasha. The present study is aimed at studying concepts of Nidranasha and evaluating the effect of Guda

Pippalimula Yoga on patients with primary insomnia. Guda Pippalimula Yoga is described to be effective in Nidranasha in Bhaishajya Ratnavali. Two grams of Pippalimula choorna along with 2 g of Guda is administered with warm water, in the evening after meals, for a period of 48 days. Results were evaluated with Pittsburgh Sleep Quality Index (PSQI). There was a significant improvement in the trial group compared with the control group. Guda Pippali Mula Yoga is an effective drug to Nithranasha.

Keywords: Nidranasha; primary insomnia; Guda Pippali Mula Yoga

Haemophilia

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One of the most painful and dreadful genetic disorder diseases, ever known to the medical world, without a clear solution is haemophilia. Once it was a very rare disease but in modern world, it seems to be very common. Hemophilia, a blood-associated disease, results due to deficiency of blood coagulation factor VIII or IX and is genetically transferred from parent to the next generation. Males are affected with the disease and females carry it to the reset generation. Most of the severe haemophilia patients die or permanently disabled, suffering from severe pain until death. In my medical life, I came across some hemophilia patients. Seeing their sufferings with pain, helplessness sufferings of their family to meet the heavy expensive treatment for a temporary relief, and the failure of the medical world to solve the problem of these patients, I decided to find a 'safe solution' to the disease through purely herbal medicines. By Gods grace and enthusiastic hard work, I have almost succeeded to find a clear and safe solution to this disease and its problems with treatments using herbal medicines. Details are explained in the paper. **[PO-1091]**

Keywords: Haemophilia; Ayurveda

Therapeutic Effects of Shilajatu Loha Rasayana in Shonita Dushti/Hypertension

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Explanation of hypertension in realm of Ayurveda is a moot point till date. Attempts are made to explain hypertension according to the morbidity of Dosha. This is a single-blind clinical study with pre-test and post-test design. Twenty patients suffering from Shonitadushti of either sex were selected for the study. Selected patients were treated with Deepana Pachana in the form of oral medication with chitrakadi vati two tablets three times a day on the day of admission. After assessing the Agni and Koshta of the patient, Snehapana with Guggulu tiktaka Ghrita was carried out and this extended from 5 to 7 days. Following Snehpan, Virechana was given with 40 g of Trivrita Leha. After Samyag virechana the patient was kept on Samsarjana karma for about 5 days until the Agni returned to normalcy. After completion of dietary regimen, Shilajatu rasayana was started in the form of choorna, i.e. shilajatu 12 g, loha bhasma 12 g, so totally 24 g of choorna given in the early morning and continued for 21 days. Blood pressure of patient was recorded daily at a particular time. During this course, milk was given as anupana. Results show that the administration of Shilajatu Rasayana proved to be effective in decreasing the severity of the symptoms. There was marked reduction in mean score of Systolic BP, i.e. before treatment (143.2) came down to (136) after treatment, and the analysis revealed highly significant result as $P < 0.001$ (SE ±0.956), Diastolic BP, i.e. before treatment (91.0) came down to (84.1) after treatment, and the analysis revealed significant result as $P < 0.001$. (SE ±1.156). The criteria Shiroruk showed good improvement in the mean score of before treatment (5.7) to (4.4) after treatment, the statistical test gave a significant mark as $P < 0.001$ with (SE ±0.28); Brama was reduced markedly after therapy from mean score of before treatment (3.0) to after treatment (2.25); the paired 't' test gave highly significant result as $P = 0.005$ with (SE ±0.239). The Tamasatidarshana was reduced from mean score of before treatment (3.4) to after treatment (2.6) and was statistically highly significant as $P = 0.002$ with (SE ±0.225). **[PO-30]**

Keywords: Ayurveda; dosha; Shilajatu Rasayana

Why and How Vascular Biology of Atherosclerosis need an Ayurvedic Eye

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Historical evidence of atherosclerosis was found in Egyptian mummies and Ayurveda before 200–100 BC. Evolution in concepts concerning the pathology of genesis of atherosclerosis is based on.... Why became epidemic? Why it affects certain regions of arterial tree, large or medium sized arteries? Why its clinical manifestations occur only at certain times? Rampant atherosclerosis found at the first decade of life in individuals with homozygous familial hypercholesterolemia. Atherosclerosis can affect adolescents in our society. Because modern drug therapy will almost certainly neither cost effective nor medically appropriate in primary prevention in younger population, intensive life style modification to reduce coronary risk due to lipid disorder become a social priority. The aims and objectives are to study Ayurvedic literature thoroughly to find solution for primary prevention of vascular changes and to generate sufficient basis for further research purpose. Methods of this study include: (1) review from Ayurveda and modern compendia, and (2) meanings of Ayurvedic terminologies stated hypothetically. Role of Adventia in arterial homeostasis and pathology has recently increased which is found in detail with Ayurveda compendia. Knowledge of Rakta, Raktavahini sira, Dhamni vyakarana, Raktagni, Dhamanipratichaya, Kharameda, Raktapitta, Vatarakta, Sirasamkocha, Dinacharya, Rutucharya, Aharvidhividhan and Shonitachikitsa certainly proves cost effective and medically appropriate care in primary prevention. Hence, to conclude, research in vascular biology of atherosclerosis can be supported by Ayurveda. **[PO-81]**

Keywords: atherosclerosis; Ayurveda; Adventia

Role of Ashwagandha Grannuals in the Management of Balshosha (Kuposhan, Malnutrition)

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In modern medicine, metabolic disorders contribute many diseases out of which malnutrition is a major health problem in today's era. In Ayurveda, such condition like malnutrition is described as Kuposhanjanya Vyadhi and Balshosha term is used for it in Vishwakosha (part. 11). In Ayurveda, this condition is treated with the help of Deepan, Pachan, Bruhan and Balya Dravya. Present clinical study is concerned with the preventive and curative aspect of malnutrition by means of Aahariya and Aushadhiya dravya Ashwagandha in the palatable form, i.e. granules with anupan milk as suggested by Acharya Vagbhata. The aim

of this paper is to study the efficiency of sadugdha Ashwagandha granules in Balashosha. In the present study, 60 patients of Balshosha in the age group 2–5 years were selected and randomly classified into two groups, i.e. experimental and control group. In the experimental group, chemically analysed Ashwagandha in granules form and in the control group Pakwa Ardra kharjur with anupan dugdha (up to 200 ml) in the morning for 3 months in 10 g dose will be given. Children of malnutrition (Grades I and II) in the age group 2–5 years were selected and others with systemic diseases were rejected. The effect of therapy on subjective criteria, i.e. sign and symptoms of Balashosha mentioned in Ayurvedic text graded as 0 to 4 scale, and objective parameters, i.e. Quetlet index, weight, mid arm and chest circumference, etc., were clinically evaluated. Patients were keenly observed and assessed before and after treatment, and collected data were analysed statistically. The effect of therapy shows effective and encouraging results in both groups; the detailed values will be presented in the full paper.

Keywords: Balshosha; Ashwagandha; Deepan; Pachan; Bruhan; Kharjur

Effect of Gomutra Shodhita Guggulu on Hyperlipidaemia

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Lipid and lipoprotein abnormalities are extremely common in general population in today's era. Raised cholesterol level is prevalent in 60% of population of 50–59 years age group in women in India, whereas in men it is prevalent in 45% of individuals of 40–49 years age group[1]. In the present clinical trial, study was done in 27 patients to evaluate the effect of gomutra shodhita guggulu [Commiphora wightii(Arn.) Bhandai] on dyslipidaemia. S. cholesterol, S. triglyceride, S. LDL and S. VLDL were used as biochemical parameters to assess the effect of trial drug. It was found that Shuddha Guggulu is effective in reducing the lipids, i.e. S. cholesterol, S. triglyceride and S. VLD. The trial drug has significant effect in reducing the symptoms of Medodushti and in reduction of objective parameters like weight, BMI, body circumferences such as chest, abdomen, hip and pelvis circumferences and skin fold thickness such as biceps, triceps and abdominal skin fold thickness. **[PO-151]**

Keywords: Medodushti; hyperlipidaemia; Shuddha Guggulu

Obesity, a Leading Conundrum for Society: find Solution in Ayurveda

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A recent study by a pharmaceutical company on International Day of Evaluation of Abdominal Obesity (IDEA) in around 60 countries concludes that almost 75% of Indian women and 58% of Indian men suffer from abdominal obesity. The real cause for concern is that approximately 6 of 10 such cases are likely to develop serious health conditions such as diabetes, heart attacks and liver cirrhosis. Here, we studied the effect of 'Vidangadi yoga' ('V' group) mentioned in Charak Samhita on obese (Sthul) patients. We also compared its effect with Fat Free compound ('F' compound) which is prepared using the most important selective ingredients. While assessing the effect of both drugs, Ayurvedic and modern parameters were kept in mind. The results showed significant reduction in weight, waist measurement and hip measurements in 'F' compound as compared to 'V' group. The drugs had lowered the Sr. cholesterol, Sr. triglyserides and fasting BSL significantly. Between these two drugs, the 'F' compound had shown better results than the 'V' group. To conclude, in a nutshell, the study showed that the obesity (Sthaulya) is existent from Vedic period. From the demographic, anthropometric, laboratory investigation profile and the clinical profile, we deduced that both the drugs had shown significant results out of which 'F' compound had shown better responses. **[PO-199]**

Keywords: obesity; Ayurveda; Vidangadi yoga; 'F' compound

Prevention and Treatment of Heart Diseases by Ayurvedic Medicines

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Myocardial infarction is the leading cause of morbidity and mortality in industrialized societies and remains an important health problem worldwide. Studies conducted by WHO estimate that by 2020, 50% of the world's heart patients would be living in India. Therefore, in the present study therapeutic potential of a polyherbal herbal combination

{containing Withania somnifera (50 mg/kg) + Curcuma longa (100 mg/kg) + Ocimum sanctum (75 mg/kg)} in the treatment of acute MI was evaluated. The study was carried out in male albino wistar rats for a duration of 30 days. Efficacy of the polyherbal combination was evaluated in two internationally acclaimed and reproducible models: (1) isoproterenol-induced model and (2) ischaemia-reperfusion model, these are akin to human heart diseases .Chronic oral treatment with polyherbal combination resulted in significant enhancement of the myocardial endogenous antioxidants; SOD, CAT, GSHPx ($p<0.01$) and reduction in myocardial TBARS level ($p<0.05$) as compared to the sham control group. Furthermore, polyherbal combination was effective enough to beneficially modify the ischemia-reperfusion-induced homodynamic alterations {(+)LVdP/dt, (-)LVdP/dt & LVEDP}. Most importantly, polyherbal combination demonstrated significant anti-apoptotic effects i.e. decreased Bax ($p<0.01$), upregulated Bcl-2 ($p<0.001$) expression and attenuated TUNEL positivity ($p<0.001$). Also, preserved myocardial CPK activity ($p<0.01$) and histopathologic evaluation further confirm its myocardial salvaging effects. Results of the present study clearly indicate that there is strong scientific basis for the use of polyherbal herbal combination in the prevention and treatment of cardiovascular diseases. **[PO-257]**

Keywords: Myocardial infarction, Ischaemia-Reperfusion, Polyherbal

Allergy: Ayurvedic Perspective and its Management by Ayurvedic Principles

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Ayurvedic approach towards the genesis of disease is on the theory of Thridoshas and so is the therapeutic intervention. To be responsive to the environment both internal and external is a basic sign of life. When the environment is PRO-BIOS then the harmony between the Doshas is resulted and the person experiences health. On the other hand, when the environment is ANTI-BIOS the disease is manifested. Allergy is an altered state of reactivity of the body. The antigens that induce allergic reactions are allergens. They can be quoted as Deha Dhatu Pratyaneeka Bhoota Dravya, which are capable of vitiating the Dhatus directly. Thus, the factors that disrupt the harmony of Dhatus and also lead to Doshavishamatha lead to hypersensitivity reactions. With the help of various references from Brihatrayees, an idea can be mentioned that the factors responsible for hypersensitivity reactions are: Vyadhiakshamata, Amavisha and Dushtaraktha/Anivishta shonita, with co-manifestation of Thridosha Vaishamya. After effects of allergic reactions and the effects of Vyaadhi kshamatha kshaya, Amavisha and Anivishta shonita can be correlated. Major four varieties of hypersensitivity and autoimmune factors are individually considered under above said triodes. Vikara vighatakara bhava subsides apathya nimittaja Dushta dosha and Vyadhikshamatwa suppresses the toxins or allergens. The management of allergy can be done as per the line of treatment of Viruddha ahara and Dushivisha as explained in Ayurveda. They can be thought in fourfold ways namely: (1) Nidhana Parivarjana by adapting oneself to Satmya, Hita, Aviruddha, Pathya ahara and vihara; (2) Vyadhi Pratyaneeka and Dosha Pratyaneeka chikitsa—which comprise Shodhana karma, Samshamana, Rsayana pryoga; (3) Dushi visha chikitsa including Swedana, Ubhayato shodhana, Rakta mokshana (if necessary) and Agada sevana; (4) Bala vriddhikara bhava sevana. Thus, hypersensitivity

allergic reactions can be understood and managed with the classical approach of Ayurvedic science. **[PO-418]**

Keywords: Ayurveda; Doshavishamatha; ANTI-BIOS

Cow's Ghee as a Cooking Medium and iits Effect in Prevention of Lifestyle Diseases

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Lifestyle diseases can be prevented by modification of Lifestyle. The use of oil as a cooking medium causes many health hazards. Can it be replaced by cow's ghee? Ghee possesses properties of Agnideepana and Rasayana. Charaka and Vagbhatta have advised use of cow's ghee for daily diet. The patients having complains related to lifestyle diseases were registered with sign, symptom and investigations. Ten grams of cow's ghee was used as a cooking medium. The preparation of food was explained to each patient. The duration of study was 180 days. The reduction in bodyweight, blood sugar and serum cholesterol level was observed. The use of cow's ghee can have a marked beneficial effect on preventing the development of Lifestyle diseases and on existing lifestyle diseases symptoms. The study was conducted in collaboration with Rushisatya School of Yoga, Satellite, Ahmedabad. **[PO-875]**

Keywords: cow's ghee; lifestyle diseases; cooking medium

Role of Dincharya (Daily Regimen) in Preventing Akala Jara (Premature Ageing)

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In this Universe, nobody wishes to become old, but ageing is a natural, inevitable, irreversible, and progressive biological process. Jara (ageing) as per Ayurvedic classic is classified into two types Kalaja and Akalaja; the Kalaja Jara is Swabhavika in nature which is cherished by everyone. Akala Jara is acquired one and hence called as aparirakshankrita that means it occurs by following improper health care measure; it is unnatural and untimely process occurring ahead of time. This Akala Jara is of greater intensity, rapidly progressing one if neglected, this type of Jara induces a set of social problems and mental agony terminating in 'social stigma'. The Kalaja Jara can not be avoided altogether, at the same time Akala Jara can be avoided and managed through Ayurvedic approach. To maintain good health and prevent the premature ageing one should have good daily regimens like waking at Brahmi muhurta, Nasya, Anjana, Gandusha, Abhyanga, Vyayama, etc. These are some of the activi-

ties which are beneficial for entire mankind, this will naturally help us to strengthen our senses and enjoy long, healthy, and happy 100 years of life. **[PO-880]**

Keywords: Akala Jara; premature ageing; Dincharya

Comprehensive Management of Sthaulya (Obesity)

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Obesity is a common problem and very prevalent in younger generation also, so management of obesity is very important in the present era. It is also believed that a kind of depression leads to over eating and in turn leads to obesity. Obesity as such causes problems for many people, reducing their participation in various social activities which may further increase their social problem. Juvenile obesity also has increased in the recent years and developed into a major public health problem in global level even in India. Drugs like serotonergic and catecholaminergic are used in modern medicine in spite of their side effects. Bariatric surgery which reduces the size of the abdomen is done, but still much result is not observed. As obesity is a multi factorial disease, no single remedy will be effective. So comprehensive therapies such as diet therapy, exercise, yoga, and medicine are very beneficial. This paper deals with prevalence and cause of obesity, role and probable mode of action of comprehensive therapies such as diet therapy, exercise, yoga and Ayurvedic medicine in the management of obesity. **[PO-889]**

Keywords: Udvartana; Guggulu; Shilajatu; Upavasa; Yoga

Presentation of Diabetes

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In the present era diabetes is the most popular disease in human society. According to World Health Organisation (WHO) the highest number of diabetic patients are present in India. Diabetes is mainly two types according to Ayurveda first is congenital and second one due to improper lifestyle. In this disease, sugar level increase in blood and urine also. Other symptoms like polyuria, polydypsia, polyphasia, loss of weight, weakness etc., are present. This disease also damages kidneys, heart, lungs, and eyes in later stage. So, it needs proper treatment as well as prevention. Diet is more important than medicine in diabetes. The prescribed literature regarding food and physical exercise according to Ayurveda was given to the patients. The advice about preventive measures should be strictly followed by the patients. Some of the patients could not follow this strictly. But 90% of the patients give positive response and feel better. Regular records of body weight, blood sugar, blood pressure, and pulse (Nadi) should be observed. More than 90% of the instructed patients are prevented from diabetes after 9 months follow-up. The study is showing that preventive

measures has a big role to prevent diabetes. As an ayurvedacharya, it is our humble duty to prevent the disease which is the first motto of Ayurveda. **[PO-972A]**

Keywords: polydepsia; diabetes; Ayurveda; polyuria

Preventive Measures for Osteoarthritis

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Osteoarthritis is a age-related as well as a life style disorder. Overweight, malnutrition and faulty physical activities are main factors which lead the person to be a victim of the disease. Other specific causes such as heredity, menopause, accidental injury, over exercise etc., also affect the disease. In India person of more than 50 years of age is highly affected by this disorder. Due to abnormal physical activity this severe painful disease can limit everyone's physical activity. This problem can be very well prevented by measures described in Ayurved medical science. The study was planned over 20 patients with guidance of preventive measures according to their cause and need. The study highlighted that heavy and rich fat-protein food eating habits with lack of exercise is the main causative factor of this disease. Diet having vataghna (drava,snigdha), kaphahara(laghu), and medohar(ruksha) properties selecting yava and mudga (green gram beens) as major part of the diet items. Some of the patients show wrong type of physical activity over–exercise, and modern lifestyle. These patients were given guidance regarding proper physical activity, regular exercise with proper food. Remaining patients having period of menopause were advised to follow some yoga kriya, meditation, savasan, relaxation etc. All the patients were strictly advised to follow abhyanga (ayurvedic massage therapy) over all the joints of body. The results of the study show marked improvement in physical activity of the patients. **[PO-972C]**

Keywords: polydepsia; diabetes; Ayurveda; polyuria

Quantitation of β-sitosterol from Celastrus paniculatus Willd. by a Validated HPTLC Method

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A sensitive high-performance thin-layer chromatographic method has been established for quantitation of β-sitosterol in dried seed powder from Celastrus paniculatus Willd. Chromatographic separation was performed on TLC aluminium plates precoated with silica gel 60F254 as the stationary phase with toluene-ethyl acetate-glacial acetic acid (6.0:1.5:0.1v/v/v) as the mobile phase. The plates were scanned densitometrically in the reflectance-absorbance mode at 580 nm. The method was validated for linearity, precision, limit of detection (LOD), limit of quantitation (LOQ), and accuracy. Linearity was found to be in the range of 40.00µg/cm3 to 100.00µg/cm3 with significantly high value of correlation coefficient r = 0.9986. Instrumental precision, repeatability and intermediate precision were determined to evaluate the precision of the method. The average percent content of β-sitosterol in methanolic extract of dry seed powder was found to be 0.372 mg/g. The accuracy of the method was established by evaluating percent recovery of β-sitosterol at three different levels and it was found to be 98.52%. The developed HPTLC method is complementary to other chromatographic methods and has potential use for routine quality control analysis. **[PO-39]**

Keywords: β-sitosterol; Celastrus paniculatus Willd; HPTLC; Method validation.

Conservation of Endangered Medicinal Plants: if Not Now?

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Ayurveda depends heavily on medicinal plants as a main drug source, but current data of National medicinal plants Board (NMBP) stated that many data of the medicinal plants are either endangered or threatened and even some of them are going to be extinct in near future. This really a posing threat to the Ayurvedic practice and even to the existence of great system of medicine itself. Less awareness regarding this among the Ayurvedic community has worsening the condition day by day in the form of adulteration and substitution of medicinal herbs. So why so much of negligence among us about this National treasure, Why no remarkable initiatives by Ayurvedic professionals in this regard, what to be done to save the Medicinal plants? All these are discussed in brief in this paper. **[PO-49]**

Keywords: medicinal plants; conservation; endangered medicinal plants

Review of Granthokta and Botanical Substitutes of Ayurvedic Medicinal Plants

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In Ayurveda, medicinal plants have occupied a distinctive place as the main source of treatment. The increasing importance of herbals have led to their increased use as home remedies, over the counter drugs and raw materials for the pharmaceutical industries, and thus represent a substantial proportion of global drug market. The increasing demand of herbal drugs and extinction of species result in shortage of their supply. Because of the unavailability of drugs and their increasing costs, today's manufacturers are tending to use adulterated drugs. Hence, it is the need of hour to find better substitutes for the same. Acharya Bhavmisra had explained the concept of abhava/pratinidhi dravyas and has indicated to substitute the drugs as per their rasa, veerya, vipaka properties like Musta for Ativisha, etc. In this paper, the medicinal plants with their granthokta and botanical substitutes will be discussed. Also light will be thrown on the basis of their substitution. **[PO-55]**

Keyword: abhava/pratinidhi dravyas

Documentation of Medicinal Plants in Kaginele: a Historical Place of Karnataka

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Medicinal plants are local heritage with global importance. World is endowed with a rich wealth of medicinal plants. In Ayurveda, about 2000 plant species are considered to have medicinal value. The present research work was undertaken to document the medicinal plants of Kaginele, which is a well-known historical place in Haveri district of Karnataka and attracts hundreds of tourists every day. The study area has been predominated by arid climate with uncertainty of rainfall, which has made it prone to the degradation with high biogenic pressure. The information about the medicinal plants was collected with their vernacular names, family and the parts used for the purpose. The result revealed that about 25 species of medicinal plants belonging to 17 families dominated the study area. Among these species, important medicinal plants such as Adathoda vasica, Azadirchta indica, Tamarindus indica, Aloe vera, Mimosa pudica and Murraya koengii are dominating the area. All the observed plants are listed taxonomically and systematically on the basis of periodical survey work. In addition, the medicinal importance of every plant species with respect to the different parts used such as root, shoot, leaves and fruits was documented. **[PO-62]**

Keywords: medicinal plants; Ayurveda; Kaginele; biogenic pressure

Effect of Organic Matters and PSB on the Growth and Productivity of Fenugreek (Trigonella foenum-graecum L.)

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Experiments were conducted for two consecutive years (2006–2007 and 2007–2009) in field conditions to study the effect of oil-seed cakes such as neem cake and castor cake, a botanical Calotropis procera and phosphate solubilizing bacteria (PSB) singly and in various combinations on the growth and productivity of Trigonella plant. Growth parameters include fresh and dry weight (g), pollen fertility (%), number of pods per plant, root-nodule index (0–5), nitrate reductase activity (μmole NO_2−h−1g−1) and chlorophyll content (mg/g), and productivity was calculated in terms of N, P and K in plant (mg/kg) as well as in soil (kg/ha). Although all the parameters were significantly increased in these treatments, however, the single application was comparatively less effective than combined applications. Among oil-seed cakes, neem cake was found better in promoting plant growth than castor cake followed by C. procera and PSB. Root nodulation also shows a considerable increase in combined treatments. Maximum growth and productivity observed in the combined inoculation of neem cake, castor cake, C. procera and PSB as compared with other treatments including inorganic fertilizers and untreated one. **[PO-63]**

Keywords: growth; organic matter; phosphate-solubilizing bacteria; productivity; Trigonella

Survey, Collection and Evaluation of Medicinal and Aromatic Plants of Sagar Region of Madhya Pradesh

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The project work in survey, collection and evaluation of medicinal and aromatic plants was carried out at Regional Agricultural Research Station, Sagar, Madhya Pradesh, during 2006–2007 as a location under Niche Area of Excellence of conservation, cultivation, processing and quality evaluation of medicinal and aromatic plants. Survey was conducted in various pockets of Sagar region and collected the local material of safed musli (Chlorophytum borivilianum), satavar (Asparagus racemosus), ashwagandha (Withania somnifera) and periwinkle (Catharanthus roseus), and morpho-physiological characters of the mandated crops were listed. Satavar local collections showed excellent growth above 40°C and shoot out without soil, water and nutrient management for 60 days which is proved to be truly drought-tolerant types. The plantation of Aonla variety chakaiya and N-7 showed good growth performance under agro-climatic conditions of Sagar region of Vindhyan plateau. Periwinkle collections showed variability regarding flower colour. Crop museum of medicinal and aromatic crops through demonstration during kharif and rabi season was demonstrated to popularize the medicinal and aromatic crops among the farmers, extension workers and RAWE students. The cultivation practices of satavar, ashwagandha, periwinkle,

safed musli, muskadana, buch, gwarpatha, kalmeg, arandi and palmarosa grass were demonstrated successfully in the kharif season, whereas demonstrations on chandrasuar, snauf and rabi ashwangandha were conducted as rabi medicinal and aromatic crops. The above-conducted activities encouraged the cultivation of medicinal and aromatic plants among the farmers of the region to boost up the economic status of the farmers, which is proved to be a boon to the farmers for conserving the medicinal and aromatic plants which is helpful to restore the ecological balance with the safer environment. **[PO-83]**

Keywords: morpho-physiological; cultivation practices; economic status; ecological balance; niche area

Constraints for Commercial Exploitation of Medicinal and Aromatic Plants in Sagar Region of Madhya Pradesh

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Indian system of medicines is met by the forests, where adivasis and small-scale entrepreneurs earn their living by collecting, processing and trading of medicinal herbs. The small-scale cottage units engaged in the above business are unable to meet the ever increasing demand from local and foreign market because of the reasons. M&A are scattered in forests. There is a lack of adequate data on the availability of drug material, virtually no recorded information on quantity of such product is available, short period for their collection due to phenological characteristics of the vegetation, bulky nature of the produce, high perishability/degradation of quality, inadequate organisation on the part of for collection inadequate communication, inaccessibility in remote and observe areas, lack of storage facilities collection being labour intensive and time consuming without guarantee of early returns. Lack of quality control in collection, grading, etc. and unscientific and wasteful methods result in adulteration at all levels. The relentless extraction of herbs from wild source for general decades has rendered their normal occurrence in jeopardy which has resulted in unemployment in rural areas. Further, extraction coupled with lack of cultivation has resulted in dwindling these resources and pushing of the more valuable items towards extinction. Now time has come to go in for cultivation of medicinal and aromatic plants in bigway to ensure a constant supply of raw material to agro-based industries. This is possible only when the farmers incorporate cultivation of medicinal and aromatic plants as a component into their existing cropping patterns, making use of marginal and wastelands through selection of species of medicinal values in agroforestry and social forestry programmes, evolving high-yielding varieties through breeding, standardization, collection, storage and post-harvest techniques, providing regular and additional source of income to the farmers, minimizing imports, maximizing exports and above all conserving the biological and genetic diversity of medicinal plants for the posterity. Proper utilization of these medicinal and aromatic plants can go a long way in transforming the economy of the farmers. **[PO-84]**

Keywords: M&A; phenological characteristics; quality control; extraction; cropping system

Some of the Important Medicinal Plants and their Natural Farming

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The Ayurvedic science in India is achieving great scope in the present era. People of present days are getting the awareness of the effect of the Ayurvedic medications. Most of the herbal drugs used are available at the vicinity of our house. However, they are not fit for use and are to be cultivated in an exact manner in the fertile land. In present days, due to the use of chemical fertilizers the yield which is obtained contains more number of chemicals on pharmacological analysis. To overcome this, natural farming is highly adopted nowadays. In this method of farming, insecticides, pesticides, chemical fertilizers, etc. are to be completely avoided. Some of the natural manure and pesticides can be used. As this is the presenting problem in issue to more extent, adopting the safer cultivation to be given at most importance to avoid the levels of toxicity in the herbal products, I preferred to present on this topic. **[PO-138]**

Keywords: medicinal plants; insecticides; farming

Exploring the Tribal Knowledge by Eco Club Student of Nilgiris

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Humanity derives all of its food and many of its medicines and industrial products from both wild and domestic forms of biodiversity. Unregulated exploitation and disorganized trades are responsible for the sharp decline in the herbal wealth of the area. **[PO-248B]**

Keywords: tribe; Eco Club

Folklore Medicines in Cuts and Wounds

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There are several precious herbs and plants species which, when properly identified and used, offer good results. The irony is that though many of these plants are commonly found on roadsides, lack of awareness of their usefulness has come in the way of their utilization by the Ayurvedic practitioners. However, this flora is being appropriately used by the traditional healers, but their knowledge is confined and restricted within their area only. Here is an attempt to connect the knowledge of traditional healers to that of our botanical

and scientific community to highlight many unknown but readily available herbs. Nashik, Dhule and Nandurbar districts were selected. Field trips were carried out in June and October 2009 to gather the information of such traditional heritage in the ailments of cuts and wounds. The ethno-botanical study revealed the use of 10 plant species belonging to different families to cure cuts and wounds. The method of preparation of crude drugs and their application along with the scientific and local names are given. The knowledge on the ethno-medical uses of these tribes helps to discover newer drugs to cure cuts and wounds after the scientific evaluation of the data. **[PO-249]**

Keywords: ethno-botany; ethno-medicine; traditional healers

The Important Medicinal Plants and their Method of Natural Farming

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The Ayurvedic science is achieving great scope in the present era. People of present days are getting the awareness about the effect of the Ayurvedic medications. Most of the herbal drugs used are available in the vicinity of our house. However, they are not fit for use and are to be cultivated in an exact manner in the fertile land. In present days, due to the use of chemical fertilizers the yield that is obtained contains many numbers of chemicals on pharmacological analysis. And soil test also shows the presence of high level of metals. To overcome this condition, natural farming is highly adopted nowadays. In this method of farming, insecticides, pesticides, fungicides, chemical fertilizers etc. are to be completely avoided. Some of the natural manures, pesticides and fungicides can be used. As this is the presenting problem in issue to more extent, adopting the safer cultivation to be given at most importance to avoid the levels of toxicity in the herbal products, so I preferred to give a presentation on this topic. **[PO-280]**

Keywords: medicinal plants; toxicity; herbal

Medicinal Plants in Samskaras

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From time immemorial, the plants play an important role in human life. Man has to depend upon plants for his food, clothing, medicine, fresh air, shelter and so forth. The plants play such a significant role that animal life absolutely perishes without plants. In Indian culture, we can see different purificatory methods (Samskaras) adopted in the lifespan of human beings. Garbhadana, Pumsavana, Jatakarma, Namakarana, Annaprashana, Cudakarma, Vedarambha, Upanayana, vedavratas, Samavartana, Vivaha, antyeshti, etc. are various Samskaras observed in various parts of the country by the followers of different grihyasutras. It is interesting that various kinds of plants are used in the procedure of Samskaras.

Many times, those herbs or plants are very much significant in the growth of a particular human being. As we know that no fauna exists without flora, and all plants are medicinally significant, it is to be understood that all the plants used in Samskaras are having one or the other medicinal values. The present paper is concentrating on analyzing the medicinal properties of some of the plants used in Samskaras. The medicinal properties of the plants such as Tulasi, Vata, Darbha, Khadira, udumbara, rice, Palasha, and Ashwagandha explicited by ancient Indians in ancient Indian Sanskrit texts are discussed in the present paper. The medicinal properties of Aswattha helps in curing various diseases such as consumption or tuberculosis (SS.U. 41.41, U.41.42.) (SS.U.41.43) (AH.CI. 5.25), excessive emaciation (SS.SU. 15.33), bronchial asthma (CS.CI 17.117; AH.CI. 4,38), Granthivisarpa (CS.CI.21.123), Vatavyadhi (VM. 22.73), Urustambha (CS.CI.27.50-51), Insomnia (BS. Jaladosa. 13), and for conception in sterility (BP.CI.70.26). Here Ashwagandha is used either single or in combination with other plants or herbs. Hence, introduction of particular herbs/plants during particular samskara at particular age is surely having healing effect on the person who is undergoing respective Samskaras. In the same way, the plants Tulasi, Vata, Darbha, Khadira, udumbara, rice, and Palasha, used in Samskaras (purificatory methods), are also useful to improve the life of humanity. **[PO-372]**

Keywords: medicinal plants; Tulasi

Screening and Analysis of Medicinal Plants Under the Name of 'Vayasthapana/Ayushya'

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Growing older is not the negative side of aging, but it is the accompanying degeneration of the body and sense organs that needs to be checked, to make aging more acceptable. Due to the unhealthy life style, premature aging is becoming a major problem in the present era. The lifespan and quality of life as compared with ancient times have decreased significantly. Today, the quest for long and healthy life is posing major challenge to the entire medical fraternity. It is clearly indicated from the name of first chapter of charaka samhita 'Deerghangeevitheeyam' that the quest for longevity is the primary goal of Ayurveda. Ayurveda proposes certain food and medicines as well as regimen for promoting long and healthy life. In Ayurvedic literature, a number of drugs have been described to be having anti-aging potential and given attributes like Vayasthapana, Ayushya, Ayushkara, etc. The aim of my paper is to screen and analyze those drugs, namely Aamalki, Purnarnava, Gudduchi, etc., attributed to Vayasthapaka and Ayushya properties mentioned in vedas, Samhitas, and Nighantus. The paper also aims to analyze vayasthapana Mahakashaya of charaka and Kakoliyadi and Vidarigandhyadi gana of sushrutha. Further details will be described in the full text of the paper. **[PO-552]**

Keywords: Vayasthapana; Ayushya drugs; Veda; Samhita; Nighantus

Common Medicinal Plants for Promoting Health and Preventing Diseases

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To propagate the usefulness of medicinal plants, a study has been taken up to uncover the action and usages of common plants available in rural India. It is found that Amalaki, Ashwagandha, Guduchi, Eranda, Tulasi, etc. are very useful plants. For example, Amalaki (Phyllanthes emblica linn) is a well- known food item in the form of chutneys, murrabbas, etc. Its medicinal properties have been praised in the ayurvedic texts. It is a main ingredient in Chavanprash. It is an antioxidant and antibacterial. It is good source of Vit. C, Riboflavin, carbonate, glucose, pectin etc. The fruit is found to be very effective in treating Type-II Diabetis mellitus, gastritis, bleeding piles. The paper discusses the usefulness of other drugs also. **[PA-644B]**

Keywords: Amalaki, Ashwagandha, Guduchi, Eranda, Tulasi

Phytochemical Analysis and Antimicrobial Studies of Phyllanthus maderaspatensis and Celosia argentea

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Phyllanthus maderaspatensis, a dominant weed in Jowar fields, and Celosia argentea, a dominant weed in Redgram fields, were identified by the IVI studies conducted in the test fields of Kurnool district, Andhra Pradesh. Their allelopathic influence was noted down by Petri plate and pot studies on crops such as Jowar and Redgram. Their growth parameters and biochemical parameters were tested. Although they are weed plants, they have medicinal value. Phyllanthus sp. are used traditionally for the treatment of viral, bacterial and parasitic infections. Celosia argentea seeds are used medicinally as an ophthalmic, antiphlogistic and astringent in conjunctivitis. Being the test weeds are known ethano-botanicals in the area, their solvent extracts were subjected to antimicrobial screening which resulted ethyl acetate extract as more significant inhibitory fraction. Phyllanthus maderaspatensis and C. argentea root and shoot extracts were analyzed to indicate the quality/groups of secondary metabolites. Secondary metabolites have a broad range of applications in the pharmaceutical, chemical and food industries. Results revealed that among all the metabolites alkaloids, iridoids and flavanoids are common in test species than other compounds. The percentage of richness of chemical compounds is more in shoots than in root system. **[PO-883]**

Keywords: Phyllanthus maderaspatensis; Celosia argentea; ethano-botanicals

Pharmacognostic Evaluation of an Important and Controversial Drug: 'Safed Musli' Along with its Possible Adulterant and Substitutes

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Chlorophytum is a large genus of the family Anthericaceae basically originated from South Africa. The official drug 'safed musli' is botanically equated to the tuberous roots of Chlorophytum tuberosum Baker. 'Safed musli' is an important and most controversial drug among both the indigenous systems of medicine, i.e. 'Ayurveda' and 'Unani'. In 'Ayurveda', it is described under the 'Musli Varga' and is also known as 'Varjikark rasayan', and hence it is described in many texts as aphrodisiac herb. Because of its great therapeutic importance, it is used as an integral part of more than 100 'Ayurvedic' and 'Unani' formulations. However, due to less availability and supply of poor quality and adulterated material, the identity of 'safed musli' becomes controversial. The problem becomes more acute due to the non-availability of specific literature. A very minimum amount of work available on the drug by few workers is insufficient to solve the problem of such an economically important drug. Different species of Chlorphytum are also mentioned in different literature of 'Ayurveda' as well as 'Unani' system. Mainly three species of Chlorophytum are considered as 'safed musli', viz. C. tuberosum Baker syn.; Anthericum tuberosum Roxb.; C. arundinaceum Baker and C. borivilianum Sant. & Fern.; also in many market another species, Asparagus ascendance Buch-Ham. ex Roxb.; family Liliaceae is found selling under the name 'safed musli'. It is used as a sex tonic and refrigerant, and cures syphilis and genitourinary disorders, bleeding piles and also useful as anti-arthritic, gout, liver and kidney disorders. Hence, in this paper to solve the controversy between the official drug, substitutes and adulterants, a comparative pharmacognostic evaluation of C. tuberosum, C. borivilianum, C. arundinaceum and A. adscendens has been undertaken. The tuberous roots of all the species can be identified on the basis of macroscopic–microscopic characters, physicochemical parameters and TLC finger print profiles, and these standards could be used as markers by pharmaceutical industries to detect adulterants/substitutes. **[PO-1096]**

Keywords: Chlorophytum tuberosum; C. borivilianum; C. arundinaceum; Asparagus adscendens; safed musli; pharmacognosy

Organic Cultivation of Safed Musli and Grathkumari by Goamrita as Organic Compost

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Safed musli (Chlorophytum borevilianum L.) and grathkumari (Aloe vera) both are well-known medicinal plants of the family Liliaceae. A number of formulations of both crops are popular in Ayurveda, Unani, Siddha, Homoeopathy, Naturopathy as well as many tradi-

tional and ethnic medicines. In this paper, we will study about the growth and composition of safed musli and grathkumari. Both plants were grown on soil-pot as well as field conditions and treated with control (O) 2%, 5%, 10%, 15% and 20% concentrations of Goamrita, which is prepared by the combination of cow urine, cow dung, neem leaves, gur and water; after 90 days of cultivation, safed musli and gwarpatha plants were studied for dry matter yield, chlorophyll, nitrogen and crude protein contents. Treatment with 20% cone of Goamrita showed maximum increase in all contents for organic cultivation of safed musti as well as grathkumari. **[PO-1180]**

Keywords: safed musli; gwarpatha; organic compost

Contribution of Folk Medicines in Rural Health Care in Kanpur and Adjacent Areas

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Ethno-medicines or folk medicines play a very important and vital role in primary health care conservation in rural life. According to World Health Organization, about 70–80% of the population in entire globe depends upon such type of remedies. India has great heart age knowledge of medicinal utility of plants since ancient times. The medicinal utility of these plants has not decreased even after thousands of years. Many plant species occur in self-growing conditions which are known as weeds, and these species are being used by people for treatment of various diseases. Present study is based on the utility of self-grown plants or weeds as house hold, folk or ethno-medicinal utilities in and around Kanpur. In this study, a total of 84 self-grown weeds are identified and analysed with their local names, botanical names, habit, habitat, conservation methods and medicinal utility against various disease. Most of the plants are useful in more than one disease and easily available throughout the year. By conserving these plants, we can make the treatment cheaper, non-reactive, safer and easily accessible to all. It is also observed that poor or and less literate persons have more knowledge than well literate and higher income group of persons. Present study highlights new opportunities about the self-grown medicinal plants relating conservation, protection documentation and sustainable rural development. **[PO-1182]**

Keywords: ethno-medicine; house-hold remedies; self-grown plant; weeds; folk medicines

Steadily Narrowing Spectrum of Certain Angiospermic Plants Used as Traditional Herbs in Jabalpur (Madhya Pradesh) India

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In this study, ethno-botanical usages of 100 endemic plant species belonging to different families are enumerated with their taxonomic details, status, information, ethnic values and uses. The work has been undertaken in Jabalpur city of Madhya Pradesh to record natural biodiversity. During the tenure of the study, it was observed that there is depletion in the number of species every year due to drastic environmental changes being faced globally. Human activities are the main cause of loss. **[PO-1210]**

Keywords: ethno-botanical; Jabalpur; endemic plant

Macro and Micro Nutrients of Achyranthes aspera (Sans. Apamarga) Seeds from Sri Lanka

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Achyranthes aspera belongs to family Amaranthaceae. It is found as a weed in the dry zone of Sri Lanka. This herb is recognized for its nutritional as well as its therapeutic values in Ayurveda. These seeds are used as a food supplement by hermits. Therefore this study was aimed at the formulation of a nutritious food product. The nutritional values of the seeds belonging to Sri Lankan species are determined in this study. The percentage(g/100g) of moisture (10.2 ± 0.2), protein (28.2 ± 0.3), fat (4.6 ± 0.2), ash (3.8 ± 0.1), crude fibre (3.7± 0.1) & carbohydrates (49.5 ± 0.2) were determined using AOAC methods; oven drying, Kjeldhal method, Soxhlet extraction, drying in a muffle furnace at 550oC, Acid and alkaline hydrolysis followed by ashing and carbohydrates by difference respectively. The amount of Potassium (348 ± 0.1), Calcium (44 ± 0.5), Iron (0.004 ± 0.0), Zinc (3.74 ± 0.04), Copper (0.69 ± 0.06), Manganese (0.7 ± 0.01) and Magnesium (106.13 ± 1.36) mg which was determined using atomic absorption spectroscopy. Phosphorus content (10.8 ± 0.1)mg/100g was determined using Vando Molybdate method. The percentage(mg/100g) of total sugar (2.53 ± 0.040) and reducing sugar (1.83 ± 0.006) was estimated using Lane and Eynon method and starch (6.30 ± 0.012) was determined using Acid hydrolysis. The total dietary fiber (18.75 ± 0.140) g/100g was estimated using enzyme digestion method; soluble (1.87 ± 0.021) and insoluble dietary fibre (16.88 ± 0.160) g/100 g. This study shows that Achyranthes aspera has a range of macro and micro nutrients and therefore it could be used in the formulation of a nutritional food supplement after the toxicological studies are carried out.

Keywords: Apamarga, Nutrition, Samadhi

An Ethno-botanical Survey of Native Ayurveda Herb/Diet Species Found in UK

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Purpose of this study is to report and add to the value of traditional foods and supplements been available in UK. Looking from Ayurveda diet and lifestyle point of view under the prescriptions from the qualified practitioners of UK, the available sources within the UK and from abroad are reviewed. Moreover, it is an addition to the existing knowledge of Ayurveda in propaganda where the systemic review of these traditional systems of medicines are going to be regulated by the parliament of UK in next April 2011. Considering the large area of practice in particular to Ayurveda diet and life style, there is a need to explore the value of foods been mistaken for healthy balanced diet and supplements as understood by the NHS (National Health Service) and in general opinion of the public. Methods for this study, has been through arranged trips from the college of Ayurveda UK to local Asian markets and visits to the Kew gardens and so also in wild. Several species of Ayurveda herbs/vegetables are considered to be as prime importance to varied health reasons in to the interest of practices under complementary medicine. The results have been much encouraging to follow not only by the Asian community in practice but also by western clients who are visiting the centre at Ayurveda UK Ltd Company in London and UK.

Keywords: traditional foods and supplements; UK; systemic view

The Concept of Adravyabhuta Cikitsa in Ayurveda and Its Application in Psychiatric Disorders

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Acarya Caraka has quoted that the main aim of Ayurveda is to preserve the health of man and to relieve the diseased from his sufferings. He has defined disease as the disturbance in the equilibrium of the Dhatus. Cikitsa is defined as the measures which create equilibrium in the Dhatus. In the context of Dasvidha Pariksya Bhavas, Acarya Caraka has mentioned two types of therapies depending on the nature of their composition: Dravyabhuta and Adravyabhuta Cikitsa or therapy. Dravyabhuta Cikitsa is applied in routine practice. Adravyabhuta Cikitsa has indirect action on disease. Its components are Bhayadarsana, Vismapana, Vismarana, Ksobhana, Harsana, Bhartsana, Vadha-Bandhana, Svapana, Samvahana. All the techniques included under Daivayapasrya Cikitsa can also be included in Adravyabhuta Cikitsa. After keenly analysing the methods of Adravyabhuta Cikitsa, it seems that all these methods are somewhat closer to the methods of Sattvavajaya Cikitsa and are more helpful in treating psychiatric disorders or psychosomatic ailments. All these methods have been widely used in Ayurvedic classics for treating various diseases arising by some psychological involvement. As a matter of fact, Ayurveda has very strongly put forward the importance of all of these treatment methods but in current scenario, and it seems that only Yuktivapasrya Cikitsa is being propagated further. Keeping in mind the increasing psychosomatic disorders in today's world, a prudent approach towards the promotion of these old and trustworthy practices of Adravyabhuta Cikitsa is ardently required. The poster will highlight the tools and techniques of Adravyabhuta Cikitsa and its application in treating psychiatric disorders with the help of pictorial and textual presentation. **[PO-1]**

Keywords: Dravyabhuta Cikitsa; Adravyabhuta Cikitsa; Daivayapasrya Cikitsa

Solution for Dementing Illness: Aswagandha

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Seven percent of persons over the age of 65 years in this planet are suffering from some of the dementing illness like Alzheimer's disease. The dense extracellular aggregates and the plaques of beta-amyloid peptides (BAP) that are formed by the cleavage of amyloid precursor protein (APP) and microtubule-associated protein (Tau protein) are responsible for the initiation and progression of such diseases. The neurodegenerative action of BAP can

be checked and repaired up to a varying degree by the bioactive ingredients present in the Winter Cherry Plant Aswagandha. The functional effect of the drug is reflected in improved psychological scores like Mini Mental State Examination (MMSE) of the patients. The phenomenon of cleavage of APP by enzymes and their reunion by the bioactive principles of Aswagandha will be presented graphically further in the poster. **[PO-47]**

Keywords: dementing illness; beta amyloid peptide (BAP); amyloid precursor protein; Tau protein; Aswagandha; Mini Mental State Examination

In Vivo and In Vitro Evaluation of Dashmularishtas (Local and Branded) as an Antistress and Immunomodulator

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As per Ayurveda Dashmularishta is the combination of dash mul mostly used to reduce general weakness, restores energy in women after delivery. It consists of some drugs having proven immunomodulatory effect, so the synergistic effect of this composition was studied for immunomodulatory and antistress effect. This study was performed to assess and compare Formulation A (Local) and Formulation B (Branded) Dashmularishtas for Immunomodulatory Effect in Swiss albino mice. Dashmularishta was administered at dose 0.006ml/kg/p.o. to healthy mice calculated as per posology and the Delayed Type Hypersensitivity (DTH) test and swim endurance test (Antistress) was assessed. The in vitro evaluation of blood clotting time was performed in series of 0.1–1.0 ml concentrations using phosphate buffered saline to make up volume and as control. The activity was studied for footpad thickness, swimming time and clotting time. One way ANOVA test was used for statistical analysis. Dashmularishta exhibited inhibition of DTH ($P < 0.05$) and improved stress tolerance by significantly increasing the swim duration ($P < 0.05$). It acted upon blood by intrinsic pathway and increased blood clotting time ($P < 0.05$) as compared to control group. The present study concluded that Dashmularishta showed antistress and immunomodulatory effect and Formulation B was more effective as compared to Formulation A.

Keywords: Immunomodulatory, Dashmularishtas, Antistress

Clinical Evaluation of the Efficacy of Shirodhara and Herbal Preparation in the Management of Chittodvega w.s.r. to Anxiety Neurosis

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This research work is proposed with objectives—clinical and conceptual studies on Chittodvega w.s.r. to Anxiety Neurosis, evaluation of anxiolytic effects of Kushmanda seed powder and Shirodhara in patients suffering from Chittodvega on various scientific parameters and comparing the efficacy of both in this regard. Anxiety is rampant among the people of the present era. Modern anxiolytic drugs initially show excellent results but later the development of drug dependency and increase in therapeutic dosage deteriorates patient's condition. Previous studies on ayurvedic therapies show positive results in these mental ailments. So on these bases this study is hypothesized. Thirty clinically diagnosed patients of Chittodvega will be registered and randomly divided into three groups with 10 patients in each group. Ksheera Dhara for 15 days, herbal capsules in the dose of 2 g/day for 30 days and both of these administered simultaneously will be recommended for the first, second and third group respectively. Only 10 patients have registered till now and the results have been satisfactory. Further study is on and will be completed before deadline for submission of presentation. **[PO-51]**

Keywords: Chittodvega; Shirodhara; Ksheera Dhara

A Pilot Study on the Effect of Vaitarana Vasti on Vishama Jwara

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The paper studies the effect of vaitarana vasti based on research-based evidence and scientific validation of fundamental principles. Vaitarana vasti described by Vamgasena is indicated for vishama jwara (here taken as enteric fever) also (vishamjwarani ghoram–vinashitayaashu). It contains godugdha and amlika as its main contents, which have antibacterial effect. Godugdha is having pittahara guna. Alcoholic extract of fruit of Amlika has antibacterial biological activity against Salmonella, E. coli, and Staphylococcus aureus. A pilot study was undertaken in this regard to assess the classical text and biological activity of vasti clinically. The result showed encouraging improvement in the 38 out of 50 patients whose details are furnished in the paper statistically. **[PO-72]**

Keywords: Vaitarana, amlika, antibacterial, Salmonella, E. coli

A Review on Madanphala Pippali Samskar

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The Ayurvedic approach to the treatment of disease consists of two major procedures: Samsodhana and Samshamana. Among samshodhana karma, vamana karma is the best for Kapha dosha nirharana. It is also said that Madanphala Pippali is the best among all vamana karaka dravyas because of minimum or least chance of complication. Maharshi Charaka has clearly described in detail about the sanskara of Madanphala Pippali before its administration. As at the present time Panchakarma therapies including vamana karma are gaining a lot of popularity all over the world, but a very important part of it that is Madanphala Pippali sansakara is almost neglected and not yet standardised. The procedure is done by taking the guidelines from Charaka Kalpa sthana 1 chap. and Matured Madanphala are collected at the month of February and kept in husk for 10 days, after attaining madhu gandha it is taken out, the twak is removed and the Madanphala pippali is seperated by washing it in warm water. After that Madanphala Pippali is subjected to mardana with Ghrita, Dhadhi, Madhu and Til juice one by one for 8 days with each by alternatively changing the dravya. PH value was recorded before and after the procedure. As everything now needs to be standardised, there is an urgent need of research and study for the standardisation of Madanphala Pippali sanskara. **[PO-78]**

Keywords: Madanphala Pippali, sanskara, vaman karma

Effect of Virechana in Stoulya (Obesity)

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Man is leading a mechanical life these days because of which many people suffer with lifestyle disorders like obesity. This study explains how virechana effectively tackles obesity. A total of 40 patients underwent the trial. The objective of the study was to identify how effective snehapana, virechana and samsarjana karma are in tackling stoulya (obesity). Samples were collected from the Ayurveda Retreat hospital in Conoor. All samples belonged to patients from the United States and Europe. Treatment protocol is as follows: Snehapana was prepared with Gugglu tiktakam girutham, and Virechana karma was prepared according to the classical methodology. Every patient was administered 3 days of Pachana, 5 days of Snehapana, 3 days of Abyanga Sweda and 5 days of Peyadikrma. The treatment was followed up for a period of 1 month. Parameters taken into conisderation to identify the effects of treatement were as follows: (1) weight (before and after treatment), (2) body mass index, (3) circumference of right arm, left arm, size of chest, abdomen, and waist, hip, and waist to hip ratio (before and after treatment), (4) photographing and video graphing the patient (before and after treatment). The investigations done were the thyroid function test and blood test to rule out hyperglycemia. Unpaired 't' test was used for the testing of hypothesis. The efficacy of the therapy was assessed using 't' test. To conclude,

Virechana karma showed significant statistical results in tackling stoulya (obesity). Weight reduction in the range of 5–22 kg was noticed (including follow-up). The effectiveness of the treatment is a combined effect of snehapana, virechana, samsarjanakrama and follow-up diet restriction. **[PO-390]**

Keywords: lifestyle disorders; obesity; virechana

Clinical Evaluation of Shodhan (Vaman-Virechan) and Shaman Therapy (Special by Bharngi Sharkara) in Tamak Shwasa

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Bronchial Asthma is a distressing disease and is quite common in all socio-economic strata, in all age groups, and is distributed all over the world. India is a developing country and has been showing an increase in the incidence of this ailment in the last few decades, especially in urban areas due to pollutants, allergens and changing environmental conditions and is recognized to be a major cause of morbidity and mortality. As per Ayurveda, when the prana vayu is not performing its normal physiological functions (vitiated) and becomes viguna, obstructed by kapha and moves upwards and is unable to function properly, then the condition is known as Shwasa Roga. The clinical trial was carried out in 30 patients who were divided into group A, B, and, C, treated by Bharangi Sharkara, Vaman-Virechana Karma and Bharangi Sharkara associated with vaman-virechana karma, respectively. On statistical analysis the data reflected significant improvement in clinical manifestations and laboratory investigations after the therapy. The patients of group A showed mild relief (53.6%) in their symptoms after the course of therapy. There was moderate improvement (69.16%) in the patients of group B. The best results (84.6%) were obtained in the patients of group C. There were variable statistically significant improvements in various laboratory investigations after the therapy in all the patients. No side (toxic) effects were observed in any patient during the course of treatment.

Keywords: Tamaka Swasa; Bharangi Sharkara; Bronchial Asthma; Vamana; Virechanam

Study of the Effect of Taildhara (Prushthadhara) in the Management of Katigraha (Lumbar Spondylosis) with Respect to Pain and Stiffness

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Even with advanced modern treatment, there is a large number of diseases from which patients do not get satisfactory relief. Katigraha (Lumbar Spondylosis) is a common amongst them. Arthritis of the spine is a major cause of back and neck pain. Patients often complain of pain centered in the spine that is increased by motion and associated with stiffness and limitation of motion. Taildhara is a traditional method for medication based on Ayurvedic knowledge. The objective is to study the effect of Taildhara (Prushthadhara) in the management of Katigraha (Lumbar Spondylosis) with respect to pain and stiffness. The method is to perform Taildhara with Til Tail in 10 patients suffering from Katigraha (Lumbar Spondylosis). The results and the conclusion will be discussed in the paper. **[PO-1006]**

Keywords: Katigraha (Lumbar Spondylosis); Taildhara

Role of Kumkuma Kesara Siddha Grutha Nasya and Ksheerabalataila Shirodhara in the Management of Ardhavabhedaka

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Shirorogas mentioned by our acharyas are mainly shoolapradhana and ardhavabhedaka is one among the shirorogas. It is a condition in which a patient suffers from severe one sided headache which occurs at regular intervals. If not treated at an early stage it gradually destroys the shrothra and akshi. Migraine, the second most common cause of headache, afflicts approximately 15% of women and 6% of men. With the disease afflicting majority of people in their prime age, that is from second to fifth decade, it ends up affecting their professional and social life, hampering their health. Hence an early treatment is needed in patients suffering from ardhavabhedaka. Even though a lot of research on the condition with different treatment modalities has been happening in the bio-medical world, considerable amount of the world population is still suffering from this disease without much satisfactory relief. This necessitates the exploration of an effective line of management for this disorder. Various efficacious treatment modalities have been explained by our acharyas. Vatavyadhi chikitsa is also adopted. Based on this, the aim or objective set is to study the role of Shirodhara with ksheerabalataila and nasya with Kumkumagrutha. Shirodhara pacifies vata and kunkuma kesara siddha grutha pacifies pitta. Patients from two groups with 10 members each were selected randomly and treated. The details of the mode of action and results will be discussed during the presentation. **[PO-1073]**

Keywords: Shirorogas; ardhavabhedaka; migraine; shirodhara; kumkumagrutha

Clinical Efficacy of Snigdhapatra Pindasweda and Jambeera Pinda Sweda in the Management of Sandigatavata

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Osteoarthritis is a common degenerative joint disorder particularly seen in geriatric practice. Osteoarthritis is the second most common musculoskeletal problem in the world (30%) after backache (50%). Sandhigata vata is a type of vatavyadhi and may be correlated with osteoarthritis. Snehana and swedana are prescribed as common lines of treatment for vatavyadhi. In sandhigata vata, sweda plays an important role. Pindasweda, a form of sankarasweda explained in the classics serves the purpose of alleviation of vitiated vata dosha. Drugs used in snigdhapatra pindasweda like nirgundi, eranda, dhatura, and agnimantha and those used for Jambeera pindasweda like jambeera, lashuna, and kulatha are having vatahara, shothahara, and shoolaghna action. Statistically significant results were observed in terms of pain, tenderness and swelling for both the modes of treatment. The detailed description of preparation of snigdhapatra pindasweda and jambeera pindasweda, mode of action, stastistical data, and results will be highlighted during full paper presentation. [PO-1170]

Keywords: Sandhigata vata; Pindasweda; Osteoarthritis

Prevention of Swine Flu by Ayurveda

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Swine flu is an epidemic which created havoc in Pune and other parts of Maharashtra last year. It continues to spread this year too. The objective set is to discuss the types of treatments in Ayurveda to prevent swine flu. Though not mentioned in Ayurvedic text swine Flu can be described as Agantu, Oupasargik, JanapadodhvansaVyadh. So treatment of such diseases as suggested in text will help to protect against swine flu. Viprakrushta is caused by droplet infection. We will have to consider vayu dushti responsible for Sankramana / Janapadodhvans among vayu jala desh, kala. Causes of Janapadodhvans are 'Not to follow duties', 'Not to follow Discipline of Dinacharya'. The treatments related to Nidanparivarjan, chikitsa in general and panchakarma in particular which includes nasya, dhupan, and use of rasayana, symptomatic shwasiki kriya, pathya palan is considered. Their relative importance and the justification are discussed in the paper. The theoretical justification leads to a conclusion that it can be prevented using Ayurvedic guidelines. **[PO-291]**

Keywords: swine flu; Janapadodhvansa; ayurvedic prevention.

Nakshatra Vriksha and Sacred Groves: the Traditional Ways for a Healthy and Prosperous Life

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Ayurveda is known as 'The science of life'. One just can't think about Ayurveda without plants and trees. We must conserve nature as it plays a vital role in a healthy and prosperous life. Many societies and cultures have traditionally developed strategies of conserving and managing nature and natural resources. Ancient books have references of 'Aaradhya-Vriksha, Kshemkar-Vriksha'. Brihat-nighantu-ratnakarnar and tantra-raj-tantra have references of one particular tree for every individual according to his janm nakshatra. Out of these aaradhya-vriksha is for worship and one has to be protecting it while kshem-vriksha is for regular use in daily routine for healthy life. There is another strategy for conserving nature called as 'Sacred groves'. The 'Sacred groves' are forest fragments of varying sizes, which are communally protected, and which usually have a significant religious connotation

for the protecting community. They are named differently in different regions as follows: 'Sarna' in Madhya Pradesh, 'Devrai' in Maharashtra, 'Orans' in Rajasthan, 'Devarakadu' in Karnataka, 'Kovilkadu' in Tamil Nadu, 'Kavu' in Kerala , and 'Ki law Lyngdoh' in Meghalaya. Both these cultural methods not only provide spiritual growth but have been instrumental in preserving valuable medicinal plants and trees, ponds, lakes, animals, and ecosystem. Their important role in making human life healthy and prosperous will be explained in the paper. **[PO-384]**

Keywords: sacred groves; aaradhya-vriksha; kshemkar-vriksha

Nakshatra Vriksha and Sacred Groves: the Traditional Ways for a Healthy and Prosperous Life

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Keywords: sacred groves; aaradhya-vriksha; kshemkar-vriksha

Healthy Pregnancy and Pumsavana

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Rules for healthy reproduction are compiled under the heading of 'Putriyakarana' in our classics; these are not only concerned with the health status of the mother but

also concerned with healthy progeny. Amongst these, pumsavana is an important technique that has the utmost influence on the outcome of pregnancy. Regarding pumsavana karma a misconception prevailing all over the world is that it is told only for male progeny, but in reality it is concerned with female also. This concept has to be clear in an Ayurvedic physician's mind. Dalhana extended the benefits of pumsavana from sex determination of fetus to its proper development and healthy outcome. The drugs which all are used in pumsavana karma are from jeevaniya and prajashtapaka gana. Actions of these drugs are shukra janana, putrapatya janan, balya and garbhasthapana. Eventually, these drugs act on the Hypothalamic-Pituitary-Ovary axis equilibrating the hormonal secretion (shukra janana) to release good mature ovum for successful fertilization (Garbhasthapana). The efficacy of different preparations, kala and matra prescribed for pumsavana should be analyzed. Healthy pregnancy and progeny, along with easy vaginal delivery will stay always a desire for every woman, where we can suggest a single measure—'Pumsavana'. **[PO-631]**

Keywords: pumsavana; putriyakarana; healthy pregnancy; jeevaniya; prajashtapaka.

Role of Aahaara on Ocular Health

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In maintaining a healthy status of the body and mind, Ayurveda not only emphasizes on administration of medications but also highlights the importance of aahaara. Aahaara is the moola for the existence of all living beings and it is balavarnaoujaskara. Aahara dravyas are used in day-to-day life and hence knowledge of their pros and cons helps during their usage. All our aachaaryas have dedicated separate chapters on ahaara varga and have included various dravyas under different classifications. This study is an attempt to highlight the important ahaaradravyas (wsr to ahaaravargas) and their various preparation methodologies in maintaining normal health of Chakshu – the pradhaana gnanendriya. This helps in the modification of diet, with additional intake of ahaara dravyas having cakshushya property the onset of disease as well as the complications that arise due to the onset of diseases can be well prevented. **[PO-661]**

Keywords: ahaaravarga; chakshushya property; aahaara dravyas

Immune Disorders and Ayurveda

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The immune system, designed to defend the body against foreign substances, plays a vital role in maintaining health and providing resistance to diseases. Immune cells attack

in an environment of inflammation triggered by chemical signals and discriminates cells of the body from foreign substances. Disorders of the immune system include autoimmune disorders, immune deficiency disorders and hypersensitivity reactions. In auto immune disorders, there is malfunctioning of immune system causing the body to attack its own tissues. Hypersensitivity reactions are inappropriate immune responses to a normally harmless substance and immune deficiency disorders involve malfunctioning of immune system, resulting in recurrent and severe infections that last longer than usual. New diseases or syndromes continue to bother human life, whether systemic illness or other immune disorders, the impact is same—pain and suffering. Though only a few are fatal their role in hampering the quality of life cannot be underestimated. Standard medical approach is to subdue immune system using harmful steroids and other immunosuppressants. It is observed that the management is more effective with Ayurvedic treatment. This paper aims to explore immune disorders from an Ayurvedic point of view in terms of dhatupaka, vyadikshamatwa and dooshivisha and the role of rasayanas in treating them. **[PO-706]**

Keywords: immune system; quality of life; vyadikshamatwa; rasayana

Public Health and Ayurveda

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The objective is to support the divulgation of Ayurveda and its effectiveness and to make accept the content and importance of this science by giving a testimony. Ayurveda gives deep respect to patients who are being treated as they are regarded as unique beings, in a very spiritual way. This passion and use of food as medicine strengthened the effect of the food in the person. This concept in Italy is completely not known as food is primarily treated as a sensory and aesthetic pleasure. We have the concept of diet for weight loss or when we are sick, and to provide nourishment to our body! So I would say that with Ayurveda I learned the existence of what I call the pharmacy of sound and healthy food as a maker of health or disease. Ayurveda uses herbal medicines to cure a disease. There was a very strong tradition in Italy 50 years back, especially in countries and rural areas. But the skill with which they are administered is very different and far from our current naturopaths. It is much more immersive and heard the use of medicinal herbs and their power deep in Ayurveda. Unfortunately in Italy we have lost our ancient shamanic knowledge and what remained are some house churches in some village in the country. Massage is often associated with the concept of beauty. It is practised in a cursory manner in Beauty Farm and Spa in Italy which is far from what Ayurveda means. I conclude by thanking all those who are helping with difficulties but with perseverance and tenacity to the spread of this ancient medicine that contains in itself all truth. I really hope that one day medicine will not be unique and undivided ; but will be the Medicine of Humanity.

Ayurinformatics: the Need of the Hour

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Ayurveda, the traditional Indian medicines remains the most ancient yet living traditions. Information technology is currently taking center stage and has transformed the entire world into a global market, which is demanding the dependency on the gates of information technology centre. Globalization and vast spreading competition all around have accelerated the need for knowledge intensive work performance in all the sectors of economy. The globalization, product patency, intellectual property rights issues and most important biopiracy all such issues are becoming major challenges in the traditional indigenous medical (TIM) system like Ayurveda. Efforts to monitor and regulate Ayurvedic traditional medicines are underway. Existing Information and Communication Technology implementations are mostly and to be specific largely top-down in their flow of information, i.e. from experts to target groups. Ayurveda requires restructure globally to meet the rising demands of a cyber mobile society with the application of information and communication technology. This paper discusses the impact of IT and the advances in information and communication technologies (ICTs) in this scientific age. Therefore, Ayurveda needs Ayurinformatics to keep pace with this modern world. **[PO-29]**

Keywords: Ayurveda; Ayurinformatics; information and communication technology

A Clinical Study on the Management of Sandhigatavata (OA) with Matra Basti and Yogaraja Guggulu

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Acharya Charaka has defined Sandhigatavata as the disease that when provoked, Vata locates in the Sandhi, causes Shotha, which on palpation feels like bag filled with air, and the movements of extension and flexion are accompanied with pain. This disease is comparable with Osteoarthritis, a degenerative joint disease, usually occurs after the age of 40 years. Sandhigatavata is a burning problem. Women are generally affected more than men. In contemporary science, Sandhigatavata (OA) is managed by NSAIDs, analgesics, physiotherapy, corticosteroids and surgery too. But these are very costly and cause unwanted effects. Hence, present study was carried out to see the effect of Bala taila in the management of Sandhigatavata. Ayurveda can extend a good treatment which will have efficacy, economic and of course easy acceptability. Total 50 patients were taken for the study and administered Matrabasti of Balataila in the dose of 60 ml for 21 days with 5 days interval. After basti, Yogaraja Guggulu 1 g thrice daily with sukhoshnajala was given for 45 days. The parameters like Sandhishoola, Sandhishotha, Sparshasahyata, Sandhigraha, Sashab-

dhasandi and Akunchanaprasaranajanyavedana were assessed before and after study. Present Ayurvedic treatment shows significant improvement in the signs and symptoms taken for the study. **[PO-267]**

Keywords: sandhivata; osteo arthritis; Yogaraja Guggulu; Matrabasti; NSAIDs

Research Methodology in Ayurveda

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Research means to discover the truth in old facts, concepts and practices. Actually research in Ayurveda is to explain classical references in Yuganurupa Sandarbha, i.e. as applicable in modern era. Pratisanskar of old texts can also be included in ayurvedeeya research as said by Dridhabal—'Sanskarta kurute tantram puranam cha punarnavam' (Cha. Si.12/37). Ayurvedeeya researcher must have excellent knowledge of Sanskrit Vyakarana, Darshanashastra and all ayurvedeeya texts. Researcher should give his statements only after thorough examinations by Pratyaksh, Anumana, Yukti, Upamana and Aptopadesh pramanas, i.e. means of ayurvedeeya research; as said Naparikshitamabhinivishet.. Now the research which is being carried out under the label of 'ayurvedeeya research' is not actually of Ayurveda. These researches can be labeled as herbal researches or modern researches, because without understanding ayurvedeeya texts and methods of research mentioned in these texts, one cannot perform the same. There are many intelligent students in our field but only due to lack of methodology of learning Ayurveda and its research, we are wasting their intelligence. Modern science has only one eye, viz., Pratyaksh; on the other hand Ayurveda has multiple eyes, viz., pratyaksh, Anumana, Yukti, Upamana and the most important one Aptopdesha. So, our view towards this world has more depth. As our physiological view is different, methods of diagnosis are different, principles of treatment are also different, so the research which totally depends on these things must be performed by our own methodology. For that, methods of Uhana, Eshan, Nidarshana, Vyakarana, Vyutkrantabhidhana, etc. should be clearly explained. So, methodology of literal, clinical and drug research in Ayurveda is explored detail in the paper. **[PO-288]**

Keywords: Yuganurupa Sandarbha; pramanas; punarnavam; Uhana; Eshan

Clinical Evaluation of Effects of Vamana Karma and Charakokta Palashadi Paniya and Yavagu on Shlaishmika Grahani Roga

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As per science of Ayurveda, health is maintained by equilibrium of Tridoshas, which in turn depends on normal state of Jatharagni. It has been emphasized that all diseases of body may be caused due to lack or vitiation of Jatharagni and they may be controlled with its management. Among disorders of the digestive system, Grahani Roga is the leading one. Mandagni is its basic causative factor. As per Ayurvedic classics, it is a chronic bowel disease affecting gastro-intestinal tract. Disturbance of function of Grahani leads to indigestion of ingested food and irregular bowel habits. The cardinal symptom of Grahani is alternate constipation and diarrhoea along with abdominal pain. Among four types of Grahani Roga, Kaphaja Grahani manifestations are delayed digestion, nausea, vomiting, mucoid secretions in mouth, undigested and mucous mixed stool. Objective: Present clinical trial was held to evaluate the role of Vamana and Charakokta Palashadi Paniya and Yavagu (Ch. Chi.15/142–143) in Shlaishmika Grahani. Though Parpati kalpas are effective in Grahani, due to its delayed action and higher cost, all patients cannot afford this treatment. Therefore, present study had done to introduce an easily affordable and effective treatment in Grahani Roga. The results and observation of trial will be discussed at the time of presentation. Hypothesis: The drugs used in Palashadi Paniya and Yavagu reduce kapha and vata due to katu, Tikta rasa and it may digest ama and acts as agnidipana. Methodology: A total of 35 patients were divided into two groups and comparative study was done. Group I received Palashadi Yoga followed by vamana and Group II received only Palashadi Yoga. Treatment was advised for 2 months. Result: After completion the trial, it was found that significant results were observed in Group I than Group II. **[PO-370]**

Keywords: Vamana; Palashadi Paniya; Yavagu; Shlaishmika Grahani

Clinical Study of Takradhara in Psoriasis and its Effect on Quality of Life (w.s.r. to Ekakushtha)

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Psoriasis is a noninfectious chronic inflammatory disease of a skin characterized by well-defined erythromatous plaques with silvery scale. Stress is most important factor to precipitate the disease. It resembles with Ekakushtha in Ayurveda. Psoriasis ravages the quality of life (QOL) of afflicted individuals. Quantification of the impact of psoriasis on the QOL, along with clinical severity assessment, should be studied, so that it could provide a measure to the clinical efficacy of the dermatological therapies. Considering the psychosomatic nature of disease, Takradhara therapy is taken in the present study. As various studies conducted on Dhara therapy in general and Takradhara in the form of Shirodhara has shown significant results in relieving the stress-induced disorder. The aim of the present study is to assess the clinical severity, the physical and psychosocial disability and to analyze their interrelationship in psoriasis patients and to evaluate clinical efficacy of Takradhara in improving the quality of life. Clinical efficacy of Takradhara is assessed by Health, Wellness and Quality of Life Questionnaire. The observed results are encouraging and the details of

study will be discussed in the paper during technical session. **[PO-526]**

Keywords: Ekakushtha; psoriasis; Takradhara; quality of life

Viruddha Ahara in Present Scenario

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Ayurveda is eternal and is the richest vedic heritage of India. It is the science of life. Ayurveda has its aim as 'Swasthasya swasthya rakshanam, aturasya vikara prashamanam cha|' means to maintain the health of healthy individual and to regain the health of diseased one. To maintain normal health—Dinacharya, Rutucharya, Rasayana vidhi, etc. have been told and Ahara, i.e. food taken is very important part of these. Also Ahara is one of the three important pillars which support the body. Ahara has been compared with Prana, i.e. The Life by Charakacharya. In present scenario, people are suffering from various newly emerged diseases. Viruddha ahara, i.e. incompatibilities of certain ahara types, plays a major role as nidana, i.e. cause of many diseases and is because of lack of knowledge of Aharashastra. Viruddha ahara produces ill-effects in long run and act cumulatively without getting much attention by people. Also artificially grown genetically engineered food is the major challenge ahead and is the type of viruddha ahara. Viruddha ahara in present scenario, i.e. incompatibilities of ahara and vihara and its prevention will be the key point of discussion. **[PO-555]**

Keywords: Ayurvedic aharashastra; viruddha ahara

Thailabindu Pareeksha: Ancient Tool in Current Practice

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Ancient Indian Medicine has contributed wonderful diagnostic tools for understanding and evaluating complicated disease conditions. Thailabindu Pareeksha mentioned in the Moothrapaereeksha of Ashtasthanapareeksha is such a practical tool. Urine having different physical and chemical characteristics behaves differently in various clinical conditions. This principal Dravaroopa Mala represents the pathological mechanisms inside the body. When a drop of Thila Thaila is added to the freshly collected urine under standardized protocol, one can get valuable observations about samprapthi patterns. The viscosity, surface tension, chemical composition largely influences the spread and behavior of thailabindu in the urine. Various Dosha patterns, evidences of Dhathupaka and conditions of concerned Srothuses are obtained from Thailabinduparesksha. Kleda, Ama associated with Malabhavas, Leenamalas are some of the samprapthighatakas which decide the results of Thailabindupareeksha. These samprapthi factors if understood scientifically in both spheres of medicine, substantial clinical evaluation can be done in our Ayurvedic practice. This presentation highlights the observations collected by doing Thailabindupareeksha in different patients in Government Ayurveda College Hospital, Kannur, Kerala. The photo documen-

tation of different Thailabindupareeksha cases with scientific explanation is the content of this humble presentation. Moreover, it is a sincere effort to update and revitalize an ancient Indian diagnostic tool in current clinical medicine. **[PO-586]**

Keywords: Thailabindu Pareeksha; Dravaroopa Mala; Thila Thaila

Vaman by 'Madya': a Modified Double Effective Method of Vaman

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Treating the skin disease like Psoriasis is a most challenging job. There are many aggravating factors of disease. Among these, alcohol consumption is one of the most difficult factors to avoid. Patients of Psoriasis who are habitual to alcohol are very difficult to treat because to avoid alcohol is not as simple as to avoid sugar or curd, especially for those who are addict to it. Patient has realization that alcohol is giving rise to his disease, family and social problems but still one is unable to avoid it. While treating the Psoriasis by Ayurvedic way, Vaman karma of Panchakarma have been proved as most effective treatment procedure. According to classical texts, Vamak dravya to be given is unpleasant to patient. Just we are thinking on this reference with different angle and a new thought emerged as a dravya used in process of Vaman karma also becomes unpleasant for a person. By using this thought, we have treated many individuals irrespective of disease to avoid alcohol. This paper is a case discussion of a psoriatic patient who was also habitual for alcohol. Results are very encouraging as giving relief in skin lesion as well as avoiding alcohol. **[PO-635]**

Keywords: Panchakarma; Vaman; Psoriasis; Madya; alcohol

A Case Study of Medoroga vis-à-vis Hyperlipidaemia and its Management with Lekhana Basti

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Medoroga is a condition in which there is abnormal and unequal distribution and collection of Medo Dhatu in body. The incidence and the magnitude of the problem is on constant rise due to alternation in lifestyle with sedentary habits, overeating, stressful life, environmental factors, etc. Hyperlipidaemia is a condition which shares a lot of similarity in pathogenesis and clinical presentation of Medoroga. Hyperlipidaemia is a disorder characterized by abnormal high concentrations of lipids in the blood caused by abnormal lipid and lipoprotein metabolism and has risk of producing various complications like cardiovascular diseases, diabetes, obesity, hypertension, atherosclerosis, etc .The treatment strategy is to implement lifestyle changes, including diet, exercise, weight loss and lipid low-

ering drugs. In spite of availability of numerous drugs, mankind is still leading miserable life with this disease. Hence, Ayurveda emphasizes both shodhana and shamana treatments in Medoroga. So Shodhana procedure like Lekhana Basti is taken for this case study. There is a significant improvement after treatment in clinical symptoms, lipid profile, weight loss, skin fold thickness, circumference of midarm, midthigh, abdomen and chest. **[PO-659]**

Keywords: Medoroga; Hyperlipidaemia; Lekhana Basti; shodhana

Prakruti and Dermatoglyphics

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Dermatoglyphics is the study of the patterns of epidermal ridges of fingers, palms, toes and soles. In our classics and in the Hastarekha Shastra, it is said that the study of different shapes and lines of our palms and soles indicate the course of life, span of the life, health, wealth, abilities, talents and weakness of an individual. Prakruti pariksha plays very important role for the examination of patient, for the preventive and the curative aspect of many disorders. As prakruti is the inherent characteristic property of an individual, it refers to the genetically determined physical and mental make up of the individual. So even if we go by the theory of heredity or genetics, it also says that an individual's behavior or psych is decided even before he is born. In this way, these lines and symbols may be helpful for the determination of the prakruti in more appropriate and scientific method. The assessment of the prakruti by this dermatoglyphic study, we may get to know the span of the life, behavior and health condition of the person as it is said the life span, health, wealth behavior differ from one prakruti to other. **[PO-712]**

Keywords: dermatoglyphics; prakruti; hastarekha; behavior

Research Updates of Shilajit: Shastra and Industry

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Shilajit being a Rasadravya (mineral drug) is generously used and well known all over the world for its multi-dimensional therapeutic effects in almost all the diseases which is aptly described by Acharya Charaka. It is the highest sold Ayurvedic medicine in the world. Hence, an attempt is made in this paper to highlight the research updates of Shilajit about its origin, effect of shodhana, active principles, therapeutic benefits, and patents. The only controversy in Shilajit is its origin, but if it is traced scientifically we will come to know that it is the exudate of plant Euphorbia Royelina Boiss. Shodhana is a must for Shilajit; how the process of shodhana influences the efficacy of shilajit is revealed. It contains mainly fulvic

acids and DBP, which have anti-oxidant effect over the body. It draws great attention as there are many patents under its name. **[PO-1128]**

Keywords: shilajit, origin, shodhana, Antioxidants, FA (Fulvic acid), DBP (Dibenzo Alpha Pyrones)

Bacteriostatic Action of Goghrut

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According to the classical text of Ayurved, it has been mentioned that goghrut should be applied on wounds. Similarly, it is also administered orally to the patient of Atisaar, Grahani, etc. Thus it becomes a matter of study to investigate the role of goghrut in this respect. Accordingly, experiment for the growth of pathogen in nutrient broth treated with 0.06% to 0.07% goghrut showed bacteriostatic action of the substance. **[PO-1131]**

Keyword: Goghrut, Pathogen, Atisaar, Grahani

Changes in Heart Rate During Meridian Treatment by Using Extreme Low Intensity Electromagnetic Therapy

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Bioresonance therapy (BRT) is known to be particularly efficacious in the restoration and enhancement of the self-healing mechanisms of the organism resulting in an improvement of the inner balance impaired with a pathological process. On the other hand, balancing effect of meridian and doshas treatment is also well known. Examples of body and marma points treatment by using BRT (10μTs, 10Hz-10 kHz) are presented and analysed. Beginners yoga group: measurement of HRV (heart rate variability) base stats of the healthy group, then another measurement of the stats after one hour of yoga exercises. During the next half hour we measure the parameters of the recovery phase both with and without BRT treatment. We perform the above procedure at the beginning, after week one, after month one, after six months. During this period all participants practise the specified exercises at home or during group sessions. Partial results of the analysis of the HRV show an increase in the ability to adaptation.

Keywords: information transfer, self-healing, yoga, BRT

Sutures, Needles and Knots in Ophthalmology

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Sutures and needles described in sushruta samhita, except thread and silk, nothing is used in present times due to risk of infection, better technology available to make fine sutures and needles. Topics covered in my poster are ideal suture material, types of suture—monofilament/multifilament, absorbable/nonabsorbable, material—natural/synthetic, tensile strength, tissue reaction, degradation, etc., types of needles—geometrics, shape of point, etc., their use in ophthalmic practice—cataract, squint, DCR/DCT, Oculoplasty, Scleral fixation IOL, Iris repair, buckling in retina surgery, etc. The aim is to establish the importance of minute topics that can make the task of selection of correct suture, needle; knot very easy in practice of ophthalmology. **[PO-18]**

Keywords: sutures, needles, knots, Ayurveda, Netra Roga

Tooth Extraction Without Anaesthesia by Jalandhara Bandha Yoga

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Tooth extraction is a very common procedure. While in ordinary cases, simple extraction is done, sometimes surgical extraction is also performed; for the purpose of tooth extraction, Anaesthesia is a must, mostly the local anaesthesia. Increase in the number of patients with cardiac diseases, complications of anaesthesia, medicolegal issues, etc. have made tooth extraction a very complicated issue. A traditional method of tooth-extraction without anaesthesia, Jalandhara Bandha, has been successfully practised in our country by local dentists for centuries. In this study, a prompt attempt has been made to evaluate the same. The flow of Susumnajala, which support the group of Nadis, is stopped for a while along with the Ida-Pingala Nadis, thereby achieving analgesia and anaesthesia, tooth is extracted quickly then. The procedure needs the patient to sit erect on a low stool and specific manipulations by the dentist. In the Dental Clinic of SDM College of Ayurveda, Hassan good numbers of Dental Extractions are done daily using this technique in cases of mobile teeth. Jalandhara Bandha is a simple technique of teeth extraction that can be practised in mobile teeth without the need of using anaesthesia and without any risk and complication. **[PO-37]**

Keywords: tooth extraction, traditional, Jalandhara Bandha, Susumnajala, Ida-Pingala Nadis

Some of the Important Medicinal Plants and their Natural Farming

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The Ayurvedic science in India is achieving great scope in present era. People of present days are getting the awareness of the effect of the Ayurvedic medications. Most of the herbal drugs used are available the vicinity of our house. But they are not fit for use and are to be cultivated in an exact manner in the fertile land. In present days due to the use of chemical fertilizers the yield which is obtained contains many number of chemicals on pharmacological analysis. To overcome this, natural farming is highly adopted now a days. In this method of farming insecticides, pesticides, chemical fertilizers etc, are to be completely avoided. Some of the natural manure, pesticides can be used. **[PO-138]**

Keywords: chemicals; pharmacology

Traditional Management of Migraine: a Clinical Study

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Migraine is an externally painful headache that you feel very much illness. It have been seen in 15- to 40-year-old men and women. Migraine (affecting one half of the head) is starting in early morning and continues up to 72 h. Present time this increases mental work, tension dietary abnormities or metabolic unbalance. There are migraine behind metabolic unbalance, extreme mental works, tension and sum or genially disposed, but it causes uncleared look of clinical management and the immediate treatment is possible based on the symptoms as well as traditional or domestic medicine given relief from headache using a plant of Aak Arka. This is easily available throughout India. A minimal port of 'Arka' has been used for a fast and curable relief from migraine. **[PO-416]**

Keywords: migraine; extreme mental works; Aak Arka

Role of Pracchanna and Bhringaraja Lepa in the Management of Indralupta w.s.r to Alopecia areata

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Shalakya Tantra is one among the branches of Ashtanga Ayurveda which deals with the prevention and treatment of diseases above the Uttamaga. Indralupta is one of the Kapalagata Rogas mentioned in Ayurvedic classics which has lakshanas like patchy hair loss in the scalp, mustache, and beard similar to Alopecia Areata. Alopecia Areata is a burning problem in today's world which requires a safe and cost effective management. Pracchanna

is one among the treatments to stimulate the hair follicles and Bhringaraja lepa helps to promote hair growth of the particular area. Pracchanna and Bhringaraja lepa are found to be effective therapeutic procedures which are successfully practiced in our hospital, SDM College of Ayurveda, Hassan. 20 Patients fulfilling the inclusion criteria of Indralupta wsr to Alopecia Areata were randomly selected from the OPD and IPD, Dept. of Shalakya Tantra, SDM College of Ayurveda, Hassan. They were administered Pracchanna and Lepa once in 7 days for three sittings. **[PA-505]**

Keywords: Shalakya Tantra; Ashtanga Ayurveda; Pracchanna; Lepa

Successful Tooth Extraction by 'Jalandhar Bandh-Yoga' in Hypertensive and Diabetic Patients

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Jalandhar Bandh Yoga is an appropriate process to extract tooth without giving any kind of anesthetic support. It gives tremendous results in hypertensive and diabetic patients. In this research 200 patients have been taken in which 76 suffered from hypertension, 68 from diabetes mellitus, and rest 56 patients suffered both. Results of complete research are presented in the paper. **[PO-552]**

Keywords: Jalandhar Bandh Yoga; tooth extraction; diabetic patients

Surgical Tools in Ancient India: a Possible Archaeological Correlation

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The art and science of medicine is as old as the mankind itself. Disease and injury have been part of our life and the measures taken to treat them coincided with the march of civilization. In ancient system of medicine, the word salya is applied for the art of surgery and it is derived from the root sal or sval meaning, to move quickly. In Ayurveda, the two most important samhitas are the Charaka samhita and Susruta samhita. From the very beginning, as we have seen, two schools of medicine have been recognised. One of them is Atreya, introducing medicine proper and that of Dhanvantari, introducing Susruta to the art of surgery. Sushruta one of the earliest surgeons of the recorded history has even described plastic surgery. Sushruta samhita is the key text on tradition Indian surgery. Sushruta demanded that cutting instruments be made of the best steel and so sharp as to split hair. Sushruta samhita described over 120 surgical instruments, it was divided into two category of instruments, that is Blunt (Yantra) and Sharp (Sastra). The present paper is focused on surgical tools in ancient India and their archaeological correlation. The numerous metal artefacts, pottery, tools and implements unearthed during the excavations, having significance in the present context of surgery, will be examined in detail in course of the discussion. **[PO-32]**

Keywords: surgical tools; metal artefacts; tools and implement; pottery

Management of Parikartika by Kshar Sutra

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Parikartika is the common disease in ano-rectal region. Nearly about 70– 80% of patients of this region are suffering from Parikartika. Patient come to Ano-Rectal clinic with the complaint of Bleeding P.R. and they think that they have Piles but after examination only we can able to find the exact disease. Main cause of the disease is constipation. Due to constipation anal verge become tear and when it became chronic some tag feels outside that is called Tvchiya Rakshak Arsh (Sentinel Piles). Kshar sutra is the best procedure for Parikartika Avam Arsh. Clinical study had done at Rao's Kshar sutra centre on 100 patients. We get the results with a success rate of 99%. Procedure is very simple just ligate the sentinel Piles along with Fissure bed. Detail will be discussed in the full paper presentation. **[PO-145A]**

Keywords: Parikartika; Kshar sutra; Parikartika Avam Arsh

Agnikarma and Katibasti in the Management of Gridhrasi (Sciatica): a Comparative Study

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Background: Gridhrasi, one of the Vatavyadhi, is caused by aggravated Vata dosha with ruja felt in the waist, back, thigh, knee joint and calf region along the course of Sciatic nerve. Back ache is a global problem with 80% of the world population and about 30–40% of patients of backache suffer from Sciatica. Inspite of the different managements mentioned in Ayurvedic and Allopathic Medical sciences, many times there are some or other shortcomings and drawbacks in them. Considering all these, the present study was taken up with the objective of evaluating the efficacy of Agnikarma over the padakanistakam (little toe) in the management of Gridhrasi compared with Katibasthi which has been established in the previous dissertation works. Methods: Patients with classical features of Gridhrasi (Sciatica) due to Lumbar Intervertebral disc prolapse were selected. The management of Gridhrasi by Agnikarma and Katibasthi was conducted by including the patients into two groups namely Group A and Group B. The data were collected and the observations were made before the treatment, on 8th day, 15th day and on 22nd day treatment procedures. The data obtained from the results were subjected for statistical analysis and conclusions were drawn. Results: With Agnikarma treatment, the pain was totally relieved in 80% of cases, reduced to moderate degree in 20% and in 95% of cases for whom SLR Test became negative. With Katibasthi treatment, the pain was totally relieved in 50% of cases, reduced to moderate degree in 20% and to mild degree in 25% of cases. In 60% of cases, SLR Test became negative. However, changes in the radiological findings did not occur in both the methods of management. Analysis of overall effect of treatment in the present study reveals that Agnikarma was statistically significant compared with that of Katibasthi. Conclusions: The management of Gridhrasi by Agnikarma was more efficacious when compared with Katibasthi in reducing pain. However, there were no radiological changes by both the methods of treatment. Further studies may be conducted by future scholars by taking more samples with more number of sittings.

Keywords: Gridhrasi; Ruja; Agnikarma; Katibasthi; Padakanistakam; Sciatica; Sciatic nerve; SLR Test; Lumbar Intervertebral disc prolapse

Preventive of Recurrent Urinary Calculi w.r. to Causative Factors

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Ayurvedic medicines are effective for the treatment of Urinary Calcul. Many times it is observed that this disease reoccurs. We studied the causative factors for urinary calculi in 20 patients of reoccurrence. Potable water containing higher amount of salts (TDS > 500) is responsible for stone formation in entire region of certain part of the country. In this study, surprisingly some of the patients drinking R. O. Plant water were also caught by

Calculi Second time. Constipation and Mutra vegadharana was found 100% in all patients. Low fluid intake 90% and recurrent U.T.I. 80% was observed. Persons taking kapha vardhaka Ahara and vihara were also found 60%; in most of the cases the serum cholesterol level was found on higher side. This study of Causative factors is useful in prevention of recurrent urinary Calculi. **[PO-404]**

Keywords: Urinary Calcul; kapha vardhaka Ahara; vihara

Management of Mansankur (Condylomata/Viral Wart) by Agnikarma with Special Context to Laser Excision

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Conventional surgical management of mansankur (condylomata/viral wart) poses many difficulties. As far as Ayurvedic management is concerned, agnikarma is the treatment of choice. For agnikarma, laser with its unique advantages over rest of the treatments can be a better option. Objective: To establish the efficacy of agnikarma with special context to laser excision in mansankur (condylomata/viral wart) in comparison to conventional surgery. Method: Well-diagnosed cases of mansankur (condylomata/viral wart) are randomly selected. Through clinical assessment and preoperative basic blood investigations are done. Under short general anesthesia, after part preparation and draping, xylocaine with adrenaline 1% solution is infiltrated subcutaneously. Warts are lifted with a forceps and excised from the base with laser. Complete haemostasis is attained and sterile dressing is done. Thus, less peripheral tissue is destructed resulting in small raw surfaces. Patients are advised avagaha/parishek sweda with panchvalkal quath from the next day. Results: Post-operative days are less painful; no dressings are required and proper counseling help to avoid recurrence. Conclusion: Agnikarma with special context to laser excision in mansankur (condylomata/viral wart) is capable of achieving lasting results. **[PO-441]**

Keywords: Mansankur (condylomata/viral wart); agnikarma; laser excision

Preventive of Recurrent Urinary Calculi w.s.r. to Causative Factors

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Ayurvedic medicines are effective for the treatment of Urinary Calcul. Many times it is observed that this disease reoccurs. We studied the causative factors for urinary calculi

in 20 patients of reoccurrence. Potable water containing higher amount of salts (TDS > 500) is responsible for stone formation in entire region of certain part of the country. In this study, surprisingly some of the patients drinking R. O. Plant water were also caught by Calculi Second time. Constipation and Mutra vegadharana was found 100% in all patients. Low fluid intake 90% and recurrent U.T.I. 80% was observed. Persons taking kapha vardhaka Ahara and vihara were also found 60%; in most of the cases the serum cholesterol level was found on higher side. This study of Causative factors is useful in prevention of recurrent urinary Calculi. **[PO-544]**

Keywords: Urinary Calcul; kapha vardhaka Ahara; vihara

A Bird's Eye View on Wound Healing in Ayurveda

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In rural areas of developing countries, wounds and dermatological conditions constitute one of the five most common reasons for people seeking medical care. Medicinal plants have been used since time immemorial for the treatment of various ailments. These drugs are stated to be effective in different conditions such as Vrana (wounds or ulcers), Nadivrana (sinuses), Vidradhi (abscess), Visarpa (erysipelas), Upadamsha (syphilitic ulcers), dagdhavrana (burns), Vranajakrimi (maggots in wounds), Dustavrana (septic wounds), Vranashotha (inflammatory changes of wounds), Ugravrana (purulative ulcer), Pramehapidaka (diabetic carbuncle) and Bhagandara (fistula-in-ano). One has to remember that there are a number of parameters which are involved in the healing of wound including epithelization, antioxidant defense and biochemical changes (hydroxyproline). The synergism combination of the potential plants will be highlighted in the full paper in detail. **[PO-827]**

Keywords: Vrana; Wound healing; herbs

Vranahara Dravyas and their Utility in Various Systemic Ulcerative Conditions

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Vrana is a discontinuity in the skin or epithelial tissues, characterized by the formation of scar after healing. It has three stages: Vrana shopha, Vrana and Vranavastu. The sites where Vrana arise include Twak, Mamsa, Sira, Snayu, Asti, Sandhi, Marma and Koshta. This indicates that some common conditions having tissue rupture at various sites like peptic ulcers, osteoporotic condition, ligamental tears, etc. These conditions were not specifically mentioned in classical texts but can be managed with Ayurvedic principles of management of Vrana. Ayurvedic texts mentioned sapta-upakramas (seventh line management of the treatment). This includes Vimlapana, Avasecana, Upanaha, Patana, Shodhana, Ropana and Vaikrutapaharana. These are again divided broadly into 60 categories (shasti-upakramas) and include simple external application of the drugs to Panchakarma and surgical procedures. It also includes treatment for the cosmetic changes that occur after the complete remission of the Vrana with scar tissue. The drugs mentioned as useful for the management of the Vrana can be used in the various ulcerative conditions if the properties of them are properly understood. Hence an attempt is made to classify the Vranahara dravyas according to their utility in various ulcerative conditions. **[PO-941]**

Keywords: Vranahara dravya; Saptopakrama; Ulcerative conditions; Shodana; Ropana

Easily Available and Effective Kshar-Sutra in Management of Bhagandra (Fistula in Ano)

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Euphorbia Nerifolia (Snuhi) is an easily available plant which can be cultivated anywhere. Its cutting and healing rate is very good but only problem is in the collection of latex and preparation of kshar-sutra. Latex should be always taken fresh otherwise within a short period it looses its sticky nature and cannot be pasted with turmeric powder properly. Due to easily availability, snuhi kshar was selected to use in all types of bhagandara. A study was performed on 100 patients who were taken from Govt. Ay. College, Patna. More then 80% were found cure, while in some cases wart-like structure around the opening of the fistulous track was developed. During changing of kshar-sutra, patient complains of pain and burning sensation but without giving them any medicine it disappears after 15–20 min. The study details are presented in the paper. **[PO-987]**

Keywords: bhagandara; kshar-sutra; snuhi; turmeric

Kshar Sutra Primary and Permanent Treatment for Fistula in Ano

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Kshar sutra treatment is the best treatment for Fistula in ano in the world. Comparative study with Kshar Sutra had done and noted that Kshar sutra is the best therapy in the world. Only 30% Fistula in ano patients directly come to treatment of Kshar sutra . 70% Patients are come to our centre after recurrence of Surgery by Surgeons . We should

propagate this therapy as a one the best treatment for Fistula in Ano. Kshar Sutra treatment is propagate among public as a no 1. procedure for Fistula in ano and recurrence chances is negligible. ICMR approved that Kshar Sutra is best treatment for Fistula in ano with comparison of Fistulectomy .OPD procedure cast effective and safe no need of hospitalization. Clinical study had done at Rao's Kshar Sutra Centre Bhilai March 2010 to July 2010on 150 Patients. Kshar sutra of only three bhawana is applied by malleable to Fistula track . Thread Changed in every seven days up to complete healing .Orally Trifla Guggale ,Keshore Guggal ,Arogya vardhani and Gandhak Rasayan Kamdhudha Ras Advised along with sphatic bhasm sitz bath and Jayatyadi Tail application. Clinical study shows that results are highly satisfactory so this particular procedure must do by all ayurvedic doctors and propagate as a first choice for Fistula in ano patients. So it is the Primary and permanent procedure for Fistula in ano patients. **[PO-1113]**

Keywords: Fistula; ano patients; Kshar Sutra

Efficacy of Medicated Plaster along with the Special Ayurvedic Medicinal Compound in the Management of Cervical Spondylosis

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Cervical spondylosis is most common in people older than age 55years. This condition is caused by chronic degeneration of the cervical spine, including the cushions between the neck vertebrae (cervical disks) and the joints between the bones of the cervical spine. The present study was conducted to evaluate the effect of medicated compound in the management of cervical spondylosis. 50 case records of patients with complaints of long term stiffness and pain in neck, shoulder, arm and chest , tingling and pinprick sensations in arms, hands, fingers, numbness and weakness in arms, hands, fingers, difficulty in walking, loss of bladder or bowel control were randomly selected. The selected treatment procedure included the internal administration of traditional Āyurvedic decoction 120 ml with thila thaila 10ml at 6.00am and 6.00pm, 2 pills (250 mg) of Yogaraja guggulu with 30 ml luke warm water at 10.00 am and 4.00pm Nirgundi arka 10ml with Rasnadi kwath 10ml after meal and the external medicated plaster consisted of Lakshadhi lepa mixed with Mahanarayan oil as sufficient quantity for 10 consecutive days. The effect of treatment procedure was evaluated on the basis of the data of clinical examination. The severity of the selected symptoms and signs were graded according to the 5 point scale as absence (0), mild (1), moderate (2), marked (3) and severe (4). Statistical analysis was done by using MINITAB software application. After 10 days administration of special medicated compound, patients have shown significant improvement ($p < 0.001$) of selected signs and symptoms in cervical spondylosis.

Keywords: Cervical spodylosis, traditional Āyurvedic decoction, Yogaraja guggulu, Nirgundi arka with rasnadi kwath, Lakshadhi lepa mixed with Mahanarayan oil

Water: the Under Estimate Medicine

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Udak aashwaskaranam shreshtham, as it is Aashwasak property described by Charka, it is very essential source for life even for healthy and diseased persons. So it is said about water that, Paniyam praninam prana vishwamev cha tanmayam. Water comes under the Panchamahabhuta. Ayurveda is the only science in which different forms of water like Aindra jala (first rainy water), Hansodak jala, Ushna jala (hot water), Sheetal jala (cold water), Aushadhi siddha jala (medicated water), and Koshna jala are used as medicines in the treatment of various diseases like Ushna jala in Navajwar and sheet jala in Madatyaya . These forms of water are definitely a supportive line of treatment as it is an essential part of Aahar. Ayurvedic texts also mentioned about water such as, different conditions in which excessive water intake is contraindicated, even simple form of water when it is taken by person at different time makes difference in body. So our interest to emphasize multipurpose uses of various forms of water for disease treatment and prevention from diseases by taking water in a proper manner. All details will be explained in the full poster presentation. **[PO-28]**

Keywords: Hansodak; sheet jala; Aindra jala; Koshna jala

Scientific Approach in Understanding the Ayurvedic Pathogenesis of Rajayakshama

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Rajayakshama is a disease which has been mentioned in ancient Indian system of medicine. This may be compared with tuberculosis which is caused by Mycobacterium tuberculli [Harsh Mohan]. There are different types of Rajayakshama depending upon the organ which it affects. These may be correlated with some of the types of tuberculosis. As it was first time mentioned by the great scholar of Indian system of medicine "Charaka Acha-

raya" but due to lack of knowledge of Sanskrit literature it was not popularized in the western world. And the knowledge of Ayurvedic science was not globalized. In the pathogenesis of Rajayakshama, Charaka beautifully explains the concept of organ-specific tuberculosis. They are (Osteoarticular/skeletal TB), (Gastrointestinal TB), (Laryngeal TB), (pulmonary TB), and (Meningeal TB). Hence the concept of organ-wise pathogenesis of tuberculosis is clearly mentioned in the Ayurvedic classics by Acharya Charaka. **[PO-50]**

Keywords: Rajayakshama; Tuberculosis; Ayurveda; Mycobacterium tuberculii

A Way to Study Anukta Strotases

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The number of Strotases in the body directly depends on the number of Bhavas exists. There are Aparisankhey bhavas in our body, so a number of Strotases are also Aparisankhey. If one wants to treat such purusha who is made-up of these Aparisankhey bhavas, then one has to know these Strotases. When we go through Strotovimaniya adhyaya we will get the description about only 13 strotases, we cannot get more explanation, i.e. mulasthanas, dushti lakshanas, etc. of Ashruvah strotas, Lasikavah strotas, sandnyavah strotas, etc. To treat diseases of these strotases, explanation regarding these Anukta strotases is needed. Acharyas has said that the explanation which anticipates 13 strotases is enough to describe the remaining Strotases, i.e. Anukt strotases which are laksha-alaksha. Strotases are the Avakashas, which are Abhivahanshila in body through their Mulasthanas. To study Anukta strotases, their mulasthanas must be confirmed. Acharyas has not clearly mentioned the criteria for fixing mulasthanas, we are in need to derive it by studying the established strotases from our Samhitas only. By taking an example of Ashruvah strotas, this is an attempt to trace 'A way to study Anukta strotases'.

Keywords: Strotases; Avakashas; Acharyas

Irritable Bowel Syndrome: an Ayurvedic Appraisal

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Irritable bowel syndrome (IBS) contributes for nearly 50% of the visits to the gastrointestinal clinics all over the world and 15%–20% of Indian population [Kapur OP, Shah S. Irritable Bowel Syndrome in Indian patients. Available at http://www.bhj.org/journal/special_

issue_tb/DPII_13.HTM, retrieved on 6/26/2010]. This is characterized most commonly by cramping, abdominal pain, bloating, constipation, and diarrhea. IBS causes a great deal of discomfort and distress and it increases a patient's medical costs, and contributes to work absenteeism. Many theories (http://www.digestive.niddk.nih.gov) have been postulated for the pathogenesis of IBS some relate it to the stress 'butterflies'; some to immune system and some to hormones like serotonin, which is again related to stress. No cure has been found for IBS, but many options are available to treat the symptoms. Hence ideal understanding of IBS should be of broad spectrum multifactorial psychosomatic disorder. Acharya charaka attributes that Agni dushti has the sole cause for this malady. One who does not follow the code of food intake falls prey to this condition, which occurs as a syndrome affecting the Dhatu Posana. Various Scholars have correlated the condition to Vataja Grahani, Vataja Atisara, Vataja Pravahika, Sangraha Grahani, etc. In the recent years, the Ayurvedic research scholars have started working on this subject. This paper will summarize and review the researches conducted in this field. **[PO-364]**

Keywords: Irritable bowel syndrome; Ayurveda

Role of Herbal Drug in Liver Dysfunction

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The liver plays a major role in protecting our body against any ingested toxic substances by efficient detoxification mechanism. Millions of compounds are detoxified with each hepatocyte. Any change in anatomy or functions of liver is characterized as liver disease. Damage to liver by hepatotoxic agents is of grave consequence, various types of liver disorders that are characterized by jaundice, hepatitis, cirrhosis, metabolic and degenerative lesions, etc. Besides viruses, liver disorder can arise due to excessive drug therapy, environmental pollution, and alcoholic intoxication. The management of liver diseases is still a challenge to the modern medicine. The modern allopathic drugs have very little to offer for alleviation of hepatic ailments and some of these drugs adversely affect the liver function. But in Ayurvedic System of Medicine, herbal drugs, herbal extracts but not the purified compounds have been used from centuries, because many constituents with more than one mechanism of action are considered to be beneficial. **[PO-834]**

Keywords: Hepatoprotectitive drug; liver dysfunction

Mode of Action of Kushthaghna Herbs

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Caraka has mentioned under the group Kushthaghna Dashemani (C.Sm. Su. 4/13) the following 10 herbs, Khadira, Abhaya, Amalki, Haridra, arukshaka, Saptaparna, Aragvadha, Karvira, Vidanga and Jati. It is interesting to understand the probable mode of action of these herbs on various kustha types. And to study the common factors present in these herbs from the ayurvedic point of view. Almost all these herbs have Tikta and kashaya rasa as a common characteristic. Tikta rasa is dominant in Aksha and Vayu Mahabhuta and Kashaya rasa is dominant in Pruthvi and Vayu Mahabhuta. The Kushthaghna action seen in these herbs maybe is because of the dominance of these particular mahabhutas. From the phyto-chemistry point of view each of these herbs has been shown to have various anti-bacterial, fungicidal, immune modulators and tumor necrozing actions. Often while using Ayurveda outside of India we feel limited because of unavailability of all Indian herbs. Ayurveda also emphasizes the use of local ingredients in treatments. Hence, if we understand the probable mode of action of these herbs we can successfully find alternative Indian or Western herbs having similar characteristics and use them to treat skin disorders. **[PO-936]**

Keywords: Kushthaghna herbs; Caraka Kushthaghna Dashemani; treatment of skin disorders; mode of action of herbs; panchamahabhuta; phyto-chemistry

An Aspect of Research Methodology in Literary Research: a Study of Jangam Dravya in Bruhat Trayi and Laghu Trayi

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There is no such collective literature on jangam dravyas. Through this study this need was fulfilled. A total of 23 085 references of jangam dravya in 44 aspects from bruhat trayi and laghu trayi are collected and studied. The aim of this study is to study the jangam dravya in different aspects. Methodology: Selection of topic → Selection of material → Selection of Database software and font → Collection of data and preparation of Master Chart → Preparation of Database → Interpretation and summarization of data. Conclusion: Database of 23 085 references of jangam dravyas from six samhitas; 1260 jangam dravya; 51 useful parts; 177 unidentified jangam dravya; Terminologies from commentaries; Significance in ayurvedic literature and treatment; References of chikitsa under six aspects; Statistical analysis of jangam dravya; Classification of jangam dravya in samhita. **[PO-1014]**

Keywords: jangam dravyas; bruhat trayi; laghu tray

Prakriti: its Role in Rogi Pareeksha and Chikitsa

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Literally the word prakriti means 'nature' or 'energy/matter principle' of creation. It refers to one's innate individual constitution, expressed as the inborn ratio of the three doshas (vata, pitta, and kapha). According to Ayurveda, Prakriti or the characteristic personality of an individual is determined by a combination of the three doshas: vata, pitta and kapha. An individual health, diseases, cure for any disease, etc. are governed by these three doshas. It is the combination of these three doshas that makes a person different and peculiar from others. Knowing prakrti is a wonderful tool for understanding oneself and others, and it also aids a person in making appropriate dietary and lifestyle choices for maintaining one's health. From a practitioner's standpoint, it is one part of the information used in the selection of medicines and other therapies for a particular patient, as well as in selecting appropriate dosages of these. In recommending therapies, the practitioner will also want to know the degree to which the observed habits and tendencies of the patient represent an expression of that person's prakriti. If the daily activities, diet, occupation and behavior are not adjusted to balance this, then this constitutional humour will increase, thus giving rise to its characteristic diseases. If the constitution is known then herbs, diet and other regimens including yogic postures can be advised correctly both for disease treatment and to promote longevity. **[PO-1082]**

Keywords: prakriti; health; rogi pareeksha; three doshas

Polyherbal Formulation Derived from Herbs of Ayurvedic Origin to Combat Poultry Coccidiosis

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Coccidiosis causes considerable economic loss in the poultry industry. Chickens are susceptible to at least 11 species of coccidia, primarily caused by protozoan parasites of the genus Eimeria. It is a rapidly developing intestinal disease, signs ranging from decreased growth rate to a high percentage of visibly sick birds, severe diarrhoea, and high mortality. These untoward circumstances make the farmers to include parasiticides (coccidiostats) of synthetic origin as prophylactic dose in the poultry feed. Prolonged use of synthetic drugs often leads to drug resistance, environmental pollution and residues in the subsequent part of food chain. It appeared imperative to explore alternate means to combat this complex disease condition. One such attempt was to develop poly herbal formulation as feed additive using extracts of some important herbs referred in Ayurveda. Different formulations were made by varying combinations and inclusion rates of extracts of Yavthikta, Kutaja, Gokshura, Daaruharidra, and Haridraa. A preliminary in vivo trial on broiler chickens (Vencobb-400, straight run) was conducted in order to evaluate the best suitable formulation to combat poultry coccidiosis in a challenged condition. Satisfactory results were obtained for the composition having Daaruharidra, Yavthikta, and Haridraa in terms of growth performance and with 25.54% protection against lesion scores when compared against '0' of unmedicated and infected control. **[PO-6]**

Keywords: coccidiosis; poultry; polyherbal formulation

Ancient Herbal Measures to Enhance Plant Potency and Quality with the Help of Vrikshayurveda

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Ayurveda has emphasized the totality of all lively aspects. Although the treatment of the human being, the supreme creature, has been described principally, the preventive and curative assessment of other lower creatures was not untouched and was documented as hastyayurveda, vrikshayurveda etc. Aushadhi, the main ingredient of the treatment procedures, has been categorized as sthawara, jangama, and parthiva. Qualitative purity and au-

thenticity of the aforesaid three sources have been depicted as root cause of the effectiveness of the treatment. On account of gradual advancement of the urbanization of the society, excessive needs of the human have made a huge impact on the sources. Majority of sources now available are either impure, unauthentic, or altered which ultimately affects the treatment procedures. So it is time needed to protect the aforesaid sources, and especially sthawara means plants not only to ensure qualitative availability of the drug for treatment but also to maintain balance of the ecosystem which eventually is primary step of having swasthya in the form of hitayu i.e. social health. So keeping the above view in mind, pathological factors (nidana), clinical signs, symptoms, and line of treatment of the diseases susceptible to plants will be scientifically elaborated at the time of paper presentation. **[PO-682]**

Keywords: vrikshayurveda; sthawara; hitayu; nidana

Clinical Efficacy of Pandughani Vati in the Management of Pandu w.s.r. to Iron Deficiency Anaemia

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Iron deficiency is the commonest nutritional deficiency all over the world, and its prevalence is highest in Indian population. According to survey conducted by API, 30% adult males, 45% adult females, 80% pregnant females and 60% children in India are suffering from anaemia especially iron deficiency anaemia. Most of the clinical presentations of iron deficiency anaemia are quite similar to Pandu, a Rasa Pradoshaja Vikara described by Acharya Charaka. Therefore, the management of the disease is one of the top priorities in health care plans of Government of India .World Health Organization has also taken it in one of its programmes. In the present study 14 patients coming under inclusion criteria of iron deficiency anaemia were included for the trial drug Pandughani Vati. In all the patients, serum ferritin, TIBC, serum iron, blood indices and Hb% along with the relief in sign and symptoms of Pandu were assessed. Marked improvement was observed in the subjective parameters, but not much improvement was observed on objective parameters; the reason may be improper dose and duration of the trial drug. **[PO-152]**

Keywords: anemia; iron deficiency; pandu; pandughani vati

Clinical Study on Role of Amalaki Gutika (*Emblica officinalis*) in Upper GIT Disorders During Pregnancy w.r.t. Garbhaj Chhardi (Morning Sickness)

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Antiemetic such as Promethazine, Prochloroperazine, Chlorpromazine, Triflupromazine, and GIT movement regulators such as Metoclopramide are commonly used in the management of GIT-related minor ailments of first trimester like nausea, vomiting, and so on, collectively called morning sickness. But the availability of these drugs to rural women is poor. Even in urban areas where conventional therapy is available, there is reluctance to take these due to their very chemical nature. To find effective nontoxic and easily available remedy, we tried a folklore drug combination based on *Emblica officinalis* pulp base named

Amalaki gutika in pregnant women with different GIT-related ailments and compared the results with standard regimen of Doxylamine succinate and Pyridoxine hydrochloride combination most widely used for morning sickness. This is a clinical trial report of comparative study of Amalaki Gutika and Doxylamine succinate in pregnancy-related morning sickness. After a trial period of 45 days, overall results were evaluated and we found that both the formulations are found equally effective. **[PO-265]**

Keywords: morning sickness; Anannabhilasha; *Emlica officinalis*; Garbhini; Chhardi

To Study the Efficacy of Triphala Kashaya in Bahupitta Kamala of Neonate

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A playful child is a pride of home. Many diseases cloud to deny this happiness by running the health of child. One of them is Kamala (jaundice). Nelson Text Book of Pead stated that 60% of term and 80% of all preterm births are affected by neonatal jaundice. More over 60% of these sufferers are cut off their lives due to kernicterus and associated acute bilirubin encephalopathy. The survivors land in CP and severe motor impairment. Ayurveda, a fine solution for healthy life, treats neonatal jaundice under heading Bahupitta Kamala. For this view nearly all acharyas described in their samhita granthas the role of Triphala with Madhu. This will be discussed at the time of presentation. **[PO-1808]**

Keywords: Bahupitta Kamala; neonatal jaundice; kernicterus

PCOD and its Ayurvedic Management

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Polycystic ovarian disease (PCOD) is said to be commonest endocrinopathy among women of reproductive age, 5–15% in prevalence. Inspite of all the technical advances, the treatment of this condition is yet challenging. Main focus of treatment should be on *life style modification* along with drugs, eating a balanced diet of right food can help to control some of the symptoms of PCOD such as obesity. About 50% of women suffering from PCOD are found to be overweight, obesity augments, the level of androgen and oestrogen, therefore, causes weight increase. It is treated principally with life style management followed by use of drugs. In the present study conducted on 30 patients, the patients were divided into 3 groups, as 10 patients only on drugs, 10 patients on life style management and 10 patients on both. Life style management includes dietic management, modification in mode of life, satavavajaya and yoga. Drugs used were Nashpushpantak Rasa, Rajapravartani Vati, Sudha Tankan and Chandraprabha Vati. Results revealed that though in first two groups only 40% improvement were reported, however, in the third group 70% cases

showed relief. Thus it can be inferred that life style modification along with drugs is the therapy to be practised. **[PO-653]**

Keywords: PCOD; obesity; life style management

Selection of Ayurveda Herbs Useful in PCOS (Polycystic Ovarian Syndrome) with Reference to Samhitas

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Polycystic Ovarian Syndrome (PCOS) is one of the most common female endocrine disorders affecting approximately 5–10% of the women of aged 12–45 years, which is the reproductive age. The principal features are obesity, amenorrhoea, acne, excessive amount or effect of androgenic hormones. It is the growing problem which also leads to female infertility. It is also new emerging disease in women due to changes in the life style, food habits, travelling during menstruation and ingestion of chemicals in the form of cosmetics etc. For the treatment of PCOS, drugs which act on 'RASA' dhatu and 'RAKTHA' dhatu are to be selected in Ayurveda. As per charaka 'RAJAH' and 'STANYA' are the Upadhatus of 'RASA'. So the drugs of 'STANYASODHANA GANA' can correct the disorder of 'RAJAH'. In addition, with the help of LEKHANIYA GANA, and drugs of VACHA-HARIDRADI GANA can reduce the excessive storage of fat, while entire hormonal cycle can also be corrected through the hypothalamus–pituitary axis. Thus we can effectively cure the PCOS based on the principals of charaka and vagbhatta. **[PO-688]**

Keywords: PCOS; Stanyasodhana gana; Lekhaniya gana; Vacha-haridradi gana; hypothalamus–pituitary axis

Artavakshaya and its Management

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Changes in the life style, eating habits and environment of mankind have a long effect on the health of reproductive system. Due to them *Artavakshaya* is very common. According to Acharya Sushrut the cardinal symptoms of *Artavakshaya* are *Yathochit Kala Adarsan*, *Alpata*, *Yonivedana*, etc. were studied before and after treatment. For the present study, 30 clinically diagnosed cases were selected from OPD/IPD of the department of Streeroga

and Prasootitantra, IPGT and RA, Jamnagar. The cases were randomly divided in to two groups: Group A (n = 20) Krishna Tila Kvatha 10 g/day for 2 months and Group B (n = 10) Uttarabasti of Gudoochyadi Taila, 3 days for two consecutive cycles. It was observed that over all clinical improvement was better in patients of Group-B than those from Group A. The results obtained were encouraging and help to manage the disease. Details of the present study will be discussed in the full paper presentation. **[PO-691]**

Keywords: *Artavakshaya*; Krishna Tila Kvatha; *Gudoochyadi Tail*

Clinical Evaluation of Garbhadana Vidhi in Certain High-Risk Pregnancies w.r.t. Pre-Conceptional Care

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Garbhadana vidhi has been explained by Charaka and almost all acharyas for achievement of better conception and high-quality progeny for both family and social well-being. Garbhadana-vidhi, described thousands of years ago, has got its importance even now, with the couple facing serious problems in fertility, due to various reasons like, repeated pregnancy loss, perinatal mortality, etc. Hence, in the current OBG practice with increased ratio of high-risk pregnancies, associated with maternal and foetal complications, pre-conceptional care is dragging its attention. Modern science aims of pre-conceptional care are limited to the identification of risk factors, maternal diseases and providing proper medication, to make the pregnancy uneventful, unlike Ayurveda, which ensures better health status of the couple, through Panchakarmas, proper diet and regimen, enabling the production of healthy sperm and ovum, resulting proper conception without derangements in further reproductive processes leading to good pregnancy outcome. Hence a clinical study conducted on 20 patients with bad obstetric history (BOH) will be presented with discussion and statistics, where satisfactory results were obtained. **[PO-826]**

Keywords: Garbhadana; pregnancy loss; Panchakarma; high-quality progeny

A Clinical Evaluation of the Effect of Kashmarya Kutaja Grita Uttara Basti in Asrigdara w.r.t. Dysfunctional Uterine Bleeding

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The word 'STREE' relates to her capacity of fertilization. The health of a woman to a large extent depends on the normalcy of her menstrual cycle. In the present era being employed outside in a stressful atmosphere, the episodes of heavy menstrual bleeding are less tolerable, which disturbs her daily routine. The condition ends up with debility and psychological upsets, which hinders the achievement of conception. As heavy menstrual bleeding (Asrgdara) is a debilitating disorder, women require rapid, safe and effective treatment. Ayurvedic texts have described a variety of treatment options in the management of

'Asrgdara'. Out of them the efficacy of 'Uttara basti' is given much more importance by all the acharyas. Uttara basti though a widely narrated therapeutic option is seldom in practice today. So now it is the need to evaluate the efficacy of this treatment modality scientifically. For the study, 20 patients suffering from Asrgdara were selected and we got satisfactory results. **[PO-835]**

Keywords: STREE; heavy menstrual bleeding; Asrgdara

Clinical Study on Utility of Different Types of Seevana Karma in Episiotomy, Lacerations of Genital Tract

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Giving birth to child is one of the dynamic physiological processes, ever known. Aptitude of obstetrician to opt for methodical incision and effective repair than ineffective suturing of irregular tears has given origin to concept of episiotomy, to cut short the second stage of labour. In some cases, injury to the soft maternal parts causes lacerations. Various degrees of tears involving maternal passage may cause immediate complications like haemorrhage, infection, wound dehiscence and remote complications like urine incontinence, prolapse of organs, etc. Acharya Susruta mentioned seevana karma as one of the Ashtavidha shastra karmas with its types, materials used, indications and contraindications. Restoring Ayurvedic terminology which was described in centuries before, in contemporary practical interventions can cause self-reliance in planning for further surgical procedure. Hence the present study of evaluating efficacy of different types of seevana karma in repair of episiotomy, lacerations of genital tract, has been planned. For the study 50 parturating patients of labour subjected to episiotomy, suffered with lacerations in genital tract are selected. **[PO-837]**

Keywords: Seevana Karma; episiotomy; lacerations of genital tract

Pregnancy Associated Mutrakrichhra (Dysuria) and Its Ayurvedic Management

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UTI is the most common bacterial infection during pregnancy and symptomatic UTI constitutes most number of visits to obstetrician. Mutrakrichhra as a disease of garb-

hini has not been mentioned in Ayurvedic texts. So mutrakrichhra has been tried to study w.r.t. UTI in garbhini following the principles given by Acharya Caraka in the 8th chap. of Sutrasthan. Thirty-eight patients fulfilling the inclusion criteria were registered from the OPD and IPD of Prasooti Tantra and Stree Roga Dept. of RGG PG Ayurvedic College, Paprola, HP, and divided in two trial groups. Shweta parpati 250 mg BD and Trinapanchmoola kwath 100 ml BD were administered in both the groups along with Yogic practices in Group B. Patients tolerated the treatment well and no adverse reactions observed. They showed reduction in almost all the parameters of assessment. There was 100% relief in burning micturition and urinary proteins as well as crystals in both the groups. Relief in suprapubic pain was 87.5% in Group A and 80.2% in Group B. Maximum number of patients were of second trimester and of VP prakriti. More details of data and results will be discussed at the time of paper submission and presentation. **[PO-907]**

Keywords: pregnancy; Mutrakrichhra; Shweta parpati; Trinapanchmoola kwath; yogic practices

Management of Menstrual Rrregularities in Polycystic Ovarian Syndrome (PCOS)

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PCOS occurs in 5% to 10% of women and is the most common cause of infertility in women The principal signs and symptoms of PCOS are related to menstrual disturbances and elevated levels of male hormones (androgens). Menstrual disturbances can include delay of normal menstruation (primary amenorrhea), the presence of fewer than normal menstrual periods (oligomenorrhea), or the absence of menstruation for more than three months (secondary amenorrhea). PCOS can be co-related to conditions like Anartava, Artavakshaya, Atyartava described in the classical text books. 100 cases of PCOS between the age group of 15 to 40 years both married and unmarried were treated with Kaseesa yoga, Kumari Vati ,Chitrakadi Vati, Kumari asava, Shiva Gutika, Hyponidd tab Rajapravruttini vati, Aloes compound, Leptadene Kanya loha vati, M2 Tone, Evecare Cap, Exher tab, Ashol M syp in combination for a period of 3 to 6 months depending on the condition. 75% of the cases had regular cycles by the end of 6 months. Ayurvedic treatment is beneficial in treating menstrual irregularities due to PCOS. **[PO-1092]**

Keywords: PCOS; infertility in women; menstrual disturbances

Wound Healing Activity of *Annona squamosa* Leaf Extract in Alloxan-induced Diabetic Rats

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Healing of diabetic wound is an enzymatic and debilitating complication studies involving both human and animal models which reveal several abnormalities in various phases of wound healing process [A J Singer and R A Clark, Cutaneous wound healing, N Engl J Med, 341 (1999) 738; W H Goodson and T K Hunt, Studies of wound healing in experimental diabetes mellitus, J Surg Res, 22 (1977) 221]. The alcoholic leaf extraction of *Annona squamosa* (100 mg/kg bodyweight for 12 days) was evaluated for its wound healing activity in alloxan-induced diabetic rats using excision and incision wound models. Extract-treated animals exhibited 89% reduction in the wound area when compared to the controls which was 75%. The normal *A. sauamosa* treated animal exhibited 92%, whereas the controls exhibited 79%. The extract-treated wounds were found to epithelize faster compared to controls. The wet and dry granulation tissue weight content, hydroxyl proline, tissue contraction, ascorbic acid and collagen concentration increased significantly when compared to control. The present investigation concluded that A. squamosa promotes significant wound healing in diabetic rats, and further evaluation of this activity in humans is suggested. **[PO-25]**

Keywords: *Annona squamosa* leaf; alloxan; excision wound; incision wound

To Study the Wound Healing Activity of *Tridax procumbens* in Dushta Vrana

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The aim of this research is to study the efficacy of *Tridax procumbens* in dushta vrana. Wound healing is the most important phenomenon in shalya chikitsa. Acharya Sushrata has mentioned different types of vrana and various methods for the management of these vrana. Therefore, this study is chosen in order to focus on one of the treatment strategies in the management of Dushta vrana. The drug is easily available from the herb *Tridax procumbens* everywhere and is a cost effective folk medicine. Nowadays, its medicinal utility is observed in our day to day life especially in rural areas. The study is aimed towards

highlighting the effects of swarasa of *Tridax procumbens* as vranashodhana and vranaropana and the period required for dushta vrana to convert into shuddha vrana. For this purpose, the patients with Dushta vrana will be selected from IPD/OPD of Government Ayurved Hospital, Nanded. The patients will be grouped into: Group A—Vranakarma with swarasa of *T. procumbens* and Group B—Vranakarma with spirit and povidone iodine. Vrana will be assessed according to vedana, akruti, vrana gandha, strava with scoring. Detail description of study with conclusion and results are presented in the paper. **[PO-968]**

Keywords: vranashodhana; vranaropana; *Tridax procumbens*

Efficacy of Vranaropaka (Wound Healing) Efficacy Drugs of Ayurvedic Origin

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Wound healing is an important field of Ayurveda. The word 'wound' is synonymous to *Vraṇa* in Ayurveda. This special character of *Vraṇa* leaving scar marks is closely resembles with modern description of wounds. Attention towards the wound-healing research is very much new in modern medicine. Conventionally topical antibiotics and steroids are used in modern medicine as wound management agents, but these may delay the healing process by preventing the formation of granulation tissues. Many leads of natural resources, especially of wound-healing efficacy, are available in different texts of *Āyurveda*, some of which were scientifically validated in the present research programme. Pharmacological evaluation and clinical validation of some Ayurvedic medicinal plants were performed in present research programme in punch, burn, and diabetic wounds. Pharmacological efficacy of these medicinal plants were assessed on the basis of the physical parameters like wound contraction size, wound index, healing period and tensile strength; biochemical parameters like stimulation of tissue DNA, RNA, protein and hydroxyproline; PAGE study and histopathological examination. Owing to the results of pharmacological efficacy of some medicinal plants, clinical study was performed in patients of various types of wounds. Assessment was made on the basis of the open eye objective parameters and haematological findings. Significant ($P < 0.001$) results of *some* medicinal plants were observed both in pharmacological and clinical models when compared with various physical, biochemical, clinical, and histopathological parameters. Wound healing is an important field of contents in Ayurveda described under the parlance of *Vraṇaropaka*. Almost 164 medicinal plants, 20 metals and mineral products and 16 animal products are included in different classical texts of *Āyurveda* like *Caraka Samhitā, Suśruta Samhitā, Astānga Hridaya, Bhāvaprakaśa,* and so on, for their wound-healing efficacy. *C. dactylon, F. bengalnsis,* and *P. santalinus* are important members among them which were not scientifically validated earlier. The present research programme revealed that these three medicinal plants established reverse pharmacology of Ayurvedic leads. **[PO-1203]**

Keywords: *Vraṇa*; wound-healing efficacy; Ayurvedic leads; reverse pharmacology

Yoga and its Origin

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First, we explain the term yoga with its origin. Yoga has its origin in Indian philosophy. Indian philosophy (Bharatiya Darshan) has the two categories viz. Astik (which believe in veda) and Nastik (which discard the veda). Yoga comes in the category of astik darshan. Patanjali, the pioneer of yoga darshan, gives the explanation for yoga as something that helps in controlling the mind). There are eight fold of means of yoga viz. yama, niyama, asana, pranayama, pratyahara, Dharana, Dhyana & Samadhi. All of those practices make the entire life of a person peaceful & free of any ailments. Now we explain on Ayurveda. According to ancient classics Ayurveda, also called science of life, has the divine origin. It is also a way of life which teaches us how to maintain and protect mental as well as physical health and achieve longevity. Both Ayurveda and Yoga have evolved from the same philosophy, culture and country. They look at the human being from the same holistic angle. Both the sciences aim at developing the physical, mental, intellectual, emotional and spiritual levels of the human being. Both the sciences share the same fundamental principles and look at the anatomy, physiology and treatment of the human body in the same manner. Again both the sciences advocate the use of herbs, food and the chanting mantras for physical as well as mental health. Both the sciences give much stress on purificatory measures than the palliative features. If both sciences are used in combination for curing the diseases the results will be everlasting and much better than using only one. For example, for the treatment of bronchial asthma (Tamaka Swasa), regular practice of Pranayama with rasayana herbs like pippali is very effective. **[PO-7]**

Keywords: yoga; veda; Ayurveda; Indian philosophy; pippali

Yoga in Pregnancy

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During pregnancy women complain of many minor ailments related to physiological changes of pregnancy. Despite this delivery is such an event which is quite painful, stressful and requires strength and stamina. Yoga practice is likely to facilitate the proper release of the hormones necessary for a normal vaginal delivery. The conditioning gained from mulabandha helps to push the baby out more efficiently. Various asanas can help to build strength and stamina and improve circulation. Meditation can improve the abilities to relax and to concentrate. During pregnancy Yoga helps to reduce nausea, morning sickness in combination with Pranayams. Yoga relieves oedema and cramping which is quite com-

mon in last months. Strengthening and massaging the abdomen help to stimulate bowel action and appetite. It raises the level of energy while also helping in slowing the metabolism to restore calm and focus. In postnatal period Yoga helps in restoring the uterus, abdomen and pelvic floor and relieves upper back tension and breast discomfort. In this way Yoga is very beneficial to make prenatal period, delivery, postnatal period comfortable to an expectant mother. **[PO-15]**

Keywords: asanas; pranayams; yoga; pregnancy

Philosophical Basis of Ayurveda

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Literally, Darshan means to see or getting knowledge and the word Philosophy means affection towards knowledge. Both these words give the ultimate meaning that it is getting proper knowledge by seeing, observing or analysing the fact. The aim of Philosophy is to get the real knowledge of the human life and the universe to attain the ultimate goal of life, that is, salvation. Ayurveda's goal is also to attain healthy life to its fullest strength. If a person is healthy enough then only he can earn dharma, artha kama and moksha. Thus it reveals that the aim of Ayurveda and Darshan is same. The word Veda denotes the means of knowledge as well as of attainment. The definition of Ayurveda given by Charak is wide and all pervasive. The four types of ayus in fact are grouped into two wholesome and unwholesome and happy and unhappy. The former depicts its social aspect, whereas the later presents the individual aspect of life. In brief, Ayurveda has been defined by Charak as 'which imparts knowledge and attainment of life'. Padartha means the subject matter to be dealt with in a particular discipline that is why the padarthas of each discipline are different such as Pramana, Parmeya etc. 16 in Nyay system, 6 dravyas in Vaisesik and so on. Likewise, Sattwa, Atma and Sharir are the three Padarthas of Ayurveda. The influence of Indian darshan is clearly seen in the context of Ayurveda, but this system of medicine has its own philosophy like sattwa, Atma and Sharir—these being components of Purusha are the Padarthas of Ayurveda. The other philosophical basis of Ayurveda such as eternal, immutable, indivisible, limitless and base of consciousness is Atma. Destructible, changeable, divisible and limited mass of Panchamahabhuta is the body and hetu, utpatti. Vriddhi, upaplaba and viyoga—these five are the stage of transformation of a living creature. **[PO-18]**

Keywords: Panchamahabhuta; Vriddhi; Padarthas

Efficacy of Yoga as an Add-on Treatment in Attention Deficit/ Hyperactivity Disorder (ADHD): an Open Trial

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Attention Deficit/Hyperactivity Disorder (ADHD) is one of the most common neuro behavioural developmental disorder among school-age children, affecting 5–10% of them. Stimulant medication is one of the frequently and widely used modalities in the management of ADHD, with significant adverse effects. So there is a growing interest in alternative or complementary treatments such as yoga in the management of ADHD. The objective of this research is to study the effects of yoga as a complementary therapy in children with Attention Deficit/Hyperactivity Disorder (ADHD). The patients were recruited from the inpatient services of NIMHANS. Children between 5 and 16 years of age and co-operative for yoga were included. Subjects with co-morbid psychiatric and medical illness were excluded. The participants were given yoga training daily (barring holidays) during their admitted period at child and adolescent psychiatry unit, NIMHANS. The subjects along with their caregiver received yoga therapy in the form of selected yogic practices from a trained yoga instructor. The subjects were rated on the instruments—Conners' Parent and Teacher Abbreviated Rating Scale—revised by the research associate who was not involved in yoga instruction, at the beginning of the study, at the time of discharge and subsequently at the end of first, second and third months. Nine children (eight males and one female) were recruited into the study. Eight of them were on medication. An average of eight yoga training sessions was given to subjects during IP care. Only five and three subjects practised yoga at home during the first and second months of follow-up. There was a significant improvement in the ADHD symptoms as assessed on Conner's Parent Abbreviated Rating Scale—Revised (0.014). Yoga practice is feasible in children with ADHD. Yoga therapy was effective in decreasing the symptoms of ADHD and can be used as add-on therapy for ADHD. **[PO-88]**

Keywords: attention deficit hyperactivity disorder (ADHD); Yoga

Integrated Approach of Yoga and Ayurveda

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The aim of both Yoga and Ayurveda are the same that is promotion of health and creating disease-free society thereby attaining salvation. Ayurveda mainly concentrates on the body and yoga concentrates on the mind. The harmonious combination of both will achieve the goal more easily. Hence a comparative study has been taken up to evolve the methods for applying Ayurveda and yoga to prevent and treat various diseases and rejuvenate the body. Yogic practice is done according to the doshic predominance of the person that is, in Vata: Kriya yoga and Astanga yoga helps to keep Vata stabilized. In Pitta: Jnana yoga and Vedanta yoga, as these persons have sharp intellects and have Atma-vichara. In Kapha: Bhakti yoga, as these persons are often loving and devotional. Ayurveda and Yoga aims the removal of toxins through Ayurvedic Panchakarma and Yogic Shat Karma. Hence Ayurveda and Yoga share similarities and fundamental principles on many levels and should go hand in hand to achieve optimal health, peace and longevity. **[PA-644A]**

Keywords: Kriya yoga; Astanga yoga; Jnana yoga; Vedanta yoga; Bhakti yoga

Yoga and Ayurveda

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In modern era most of the diseases are psychosomatic. So we should apply yoga and Ayurveda for the prevention and treatment of such diseases. Those diseases can be cured only by yoga and Ayurveda fully. I am trying to solve various types of metabolic disorders like obesity by adopting the principles of Yoga and Ayurveda. Yoga mainly gives stress on psychic problems, where Ayurveda has given main focus on bodily constituents. Both Ayurveda and Yoga have evolved from the same philosophy, culture and country. Both the sciences aim at developing the physical mental, intellectual, emotional and spiritual levels of the human being. The disorders like obesity is a metabolic disorder, which though first start with defective lipid metabolism, it affects the mind with depression. I have my own experience with obesity when I was in high school. Lastly it leaded to mental retardation and weak progress in studies. Finally when I was in 11th standard, I have visited to a yoga therapist. Along with doing pranayamas and taking medicine like Ayurslim, now I have reduced my weight from 72 kg to 57 kg. So we can say that both are effective better together than alone. **[PO-1191]**

Keywords: Ayurslim; psychosomatic; obesity

Medicines Mentioned in Indigenous, Ayurvedic Texts and Traditional Orthopaedic Theraphy for Kanda Bhagna

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This descriptive analytical cross sectional study was conducted to identify the association between widely used common regimens in traditional orthopaedic medicine and ancient Ayurvedic texts to aid fracture healing without bone deformities. A Questionnaire was given to five well known traditional Ayurvedic orthopaedic phycisians, as a purposive sample. Seven ancient Ayurvedic texts were referred (direct quotation) to support the study. Data collected according to five formulae of 100 medicinal regimens which were used soon after a fracture and after preliminary stage respectively. The most popular regimen was selected based on the frequency it was used among physicians using Chi-square and Fisher's exact tests. It was observed that among 100 formulas of ancient Ayurved texts & community based medications, eleven medicinal plants were widely in use. Among these eleven herbs, another seven medicinal plants were identified using chi-square test. Rest of the medicinal plants did not show significant probability values, revealing that there was a close relationship between Ayurvedic texts and community based data. According to the results obtained, there was evidence to prove that the same set of medicinal plants mentioned in ancient Ayurvedic texts was in wide use among the traditional orthopaedic physicians.

Keywords: Fractures, Kanda bhagna, Orthopaedics, Traditional orthopaedic medicine

Effect of Haritaki Paste on Cracked Feet (Padadari)

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Cracked feet are a common cosmetic problem and a nuisance to most people. The signs and symptoms are dry skin, cracks or fissures and thickening of the rim of heels and feet. When the fissures are deep, they may bleed and become painful. Padadari, as described in Ayurveda, can be correlated to cracked feet. Signs and symptoms of Padadhari are cracks/fissures in the feet, associated with pain and roughness. Haritaki paste had been described in Rasa Rathna Samuchchaya as a remedy for Padadhari. Since no known scientific evaluation of Haritaki Paste has been conducted, this study was undertaken. Haritaki paste is prepared by adding 5g of powdered pericarps of *Terminalia chebula* to 10 ml of ghee. Sixty patients having Padadhari were selected and divided into two groups. Group One consisted of 30 patients. They were treated by applying 5 g of Haritaki paste and left on for 20 min for 14 consecutive days. Thirty patients, designated as Group Two, were given a placebo for application in a schedule similar to Group One. Response to treatment by both groups was recorded. Symptomatic relief was used as the evaluation criteria of therapeutic effect. Patients treated with Haritaki paste showed a significant symptomatic relief in cracking, burning sensation and dryness of feet after treatment. It is concluded that Haritaki paste relieves Padhadhari (cracked feet).

Keywords: padadhari, cracked foot, haritaki paste

Effect of Ujjayi Yogic Breathing on the Respiratory Function Parameters in Young Healthy Female Subjects

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The purpose of our prospective study was to evaluate the effect of ujjayi yogic breathing on respiratory function parameters in young healthy female subjects in a 14-week long trial. A total of 59 young healthy females (aged 20,21 ±1,60) were carried out the survey between February and May 2009. The participants acquired and practiced the ujjayi yogic breathing technique 2 times a week in a 14-week long course. They were asked to practise it for 5–10 minutes at home, too. The respiratory function was measured with the computerized PDD/301/s Spirometer before and after the course. SPSS 17.0 Statistics Software was used for data analysis. We observed statistically significant increase in most pulmonary functions such as $FEV_{1,0}$ (p=0.011), $FEV_{1,0}$/FVC (p=0.012), $PEF^{\%}$ (p=0.000), $FEF_{25-75\%}$ (p=0.005), MEF75% (p=0.000), $MEF_{50\%}$ (p=0.002), FET (p=0.034), PIF (p=0.000).

There were no significant changes in FVC, in $MEF_{25\%}$ and in MTT. This result supports the concept that regular practice of yogic breathing contributes better condition of respiratory system in healthy young females. This result attracts the attention for the deficiency of the European women's breathing technique. This pilot project is part of the investigation of the adaptation possibility of people.

Keywords: Yoga; respiratory function

SECTION C
Appendix
Abstracts Received Late

APPENDIX

Ayurvedic sports Medicine – a new hope for management and Rehabilitation of Sports injuries: a Success Story

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Unique approach of management of sports injuries with combined approach of Ayurveda, physiotherapy and Yoga has attained excellent results in various cases. Last 10 years research in Ayurvedic sports medicine has concreted the results with evidence for more than 7000 cases including 276 National athletes, more than 800 state athletes. Sports injuries and rehabilitation is a risk task and have to be carried out with great responsibility since the career of a National Athlete is very important to the Nation. Injuries presenting here are Ankle sprain grade 2, grade 3, knee pain, Meniscal tear, ligament injuries, low back ache (spondylolisis, listhesis) muscle injuries, fracture, acute back & neck sprain (List), groin injuries, anterior compartment syndrome, shin splints, plantar fasciitis, Achilles tendonitis etc. Many of the chronic sports injuries unanswered by all kinds of system. Treatment methodology consists of Ayurvedic medication, manipulation treatment (Marma therapy), Oil massage, Range Of Motion exercises, Strength training, Proprioception, along with physiotherapy modalities, muscle stimulators, various Deep heat therapies (oil heat, stone heat, herbal leaves bundle heat, dried herbal powder heat, sand and salt bag heat), bandaging with herbal combinations (upanaha swedha) etc.... Specially designed treatment and external massage with various 'thaila' for improving muscle strength, tone, bulk, endurance and Power and to prevent injuries, Brief case presentation of National athletes like Sanjay Rai, Mayookha Johny (National record holder triple jump), Dija chandran. **[PA-1215]**

Visarpa Current Diagnosis and Management

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Visarpa is still a relevant clinical condition in general and specialty practice. Visarpa is vector born inflammatory spreading disease, Inflammation is mainly due to Nita of viruses this classification made according to afflicting chemical, physical, and serological criteria. Herpes simplex 1, Herpes simplex 2, Herpes zoster, Vericella zoster, Vericella, Cytomogalo virus and secondary infection to streptococcus pyogenes (Hemolytic streptococci of group A) 80 types of streptococcus pyogenes are have been recognized so far. The general line of treatment of visarpa includes langhana, langana rukshana, tikta dravya sevana ama pachana, ullekhana, shamana, and bahir parimarjana. Tikta rasa is predominanat herbs like Musta, Bala, Guduchi, Yashti, Chandana, Usheera are formed effective in many ways, due their anti-viral, anti-bacterial, anti-inflammatory, anti-oxidant, anti-tumor activity. Kasisadi

ghruta for external application gives in excellent result in Nita group of virus. Agni Visarpa is herps simile virus induced disease and it is diagnosed and it is clinically diagnosed and managed. Vataja Visarpa is disease of herpes zoster virus it is also clinically diagnosed and managed. Granthi visarpa is disease of herpes virus and secondary infection to streptococci pyoens group A. So, every physician must try to evaluating the cases of Visarpa based on the evidence. **[PA-1218]**

Keywords: Visarpa, Nita group of virus (Harpes group) of viruses this classification made according to afflicting chemical, physical, and serological criteria.

The Effect of Emblica officinalis diet on lifespan, sexual behavior and fitness characters in Drosophila melanogaster

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Drosophila is an excellent organism to test Aryuvedic medicines. The objective of our study was to explore the potential of Emblica officinalis drug on longevity, sexual behavior and reproductive fitness of Drosophila melanogaster using adult feeding method. Increase in the lifespan, fecundity, fertility, ovarioles number and developmental time was observed in both parents and F1 generation, but not in the F2 generation in experimental culture (control+ Emblica officinalis). According to the DMRT and ANOVA there is a significant difference between two cultures. It was also noticed that Emblica officinalis influence some fitness characters in Drosophila along with sexual behavior. **[PA-1219]**

Keywords: Ayurveda, Drosophila melanogaster, Emblica officinalis

Use of Intellectual Property Rights Law for the Protection and Promotion of Ayurveda

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Intellectual Property Rights (IPRs) are legal rights, which result from intellectual activity. These rights give statutory expression to the moral and economic rights of the innovators / creators in their creations. Traditional Knowledge (TK) especially Traditional Medicine (TM) wsr to Ayurveda forms a central component for the daily life of millions of people living in the developing countries including India. The world market for herbal medicines

has reached, according to one estimate, US$43 billion, with annual growth rates of between 5 and 15%. For China, the leading country in this field, WHO estimates that TM generated income of about $5billon in 1999 from the international and $ 1 billion from the domestic market. The European market in 1999 was calculated to be $ 11.9 billion (where Germany had 38%, France 21% and United Kingdom 12%). India is one of the nations blessed with a rich heritage of traditional medical systems and rich biodiversity to complement the herbal needs of the treatment administered by these systems. Some TK is codified, that is, formalized in some way (eg Ayurveda) however, a great part of it is non-codified, such as, "folk", "tribal" or "indigenous" medicine. Despite the growing recognition of TK as a valuable source of knowledge, it has generally been regarded under Western intellectual property laws as information in the "public domain", freely available for exploitation. Several developed and developing countries have agreed on the idea of documenting TK. Once published, novelty on the disclosed information could not be claimed. Following patents on turmeric, brinjal, Yoga etc, in India, work is in full throttle regarding the preparation of an easily navigable computerized database of documented TK relating to the use of medicinal and others plants (which is already under public domain) known as Technical Knowledge Digital Library (TKDL). Such digital databases would enable Patent Offices all over the world to search and examine any prevalent use/prior art. And thereby prevent grant of such patents and biopiracy. Other such endeavors include the "Gene Campaign" and the activities of National Innovation Foundation (NIF). Stronger Implementation of IPR laws in context of TM in general and Ayurveda in particular, is a double edged sword as not giving any protection would result in exploitation of the ancient wisdom without any adequate compensation and on the other hand a protection like IPRs may reduce the access to products and treatment that are essential for a large part of the developing countries' population, especially the poor. Hence, the need of the hour is to develop a suitable regime in case of IPRs for Traditional Medicine while maintaining a balance between the protection and promotion of such heritage. **[PA-1221]**

Multicentric open Observational Study on the Clinical Efficacy of "Dhatrilouha" in Iron Deficiency Anaemia

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Iron Deficiency Anaemia (which is described under the disease Panduroga in Ayurveda) is a worldwide problem with the highest prevalence in developing countries. According to WHO, the prevalence of anaemia in pregnancy in South East Asia is around 56%. In India incidence of anaemia in pregnancy has been noted as high as 40-80%. During pregnancy, 15% - 22% of maternal mortality has been estimated due to anaemia (Source: Health Information of India-2004). In Ayurveda, detailed description concerning the etiology, pathogenesis classification and management of anaemia (Panduroga) is available .It is observed that the symptoms found in anaemia are similar with the symptoms that occur in Panduroga. It is also observed that the classical treatments administered in such conditions, alleviate the symptoms of anaemia without any side effect. The conventional iron therapy

for anaemia is only palliative and associated with side effects on long term use, leaving a scope for research on alternative modalities. This clinical study is based on the data of multicentric open clinical trial conducted at 11 peripheral research institutes of CCRAS and one collaborative centre i.e. MGIMS, Wardha, Maharastra, during 2007 to 2008. Total 458 patients were enrolled, out of which 400 patients had successfully completed the study. The drug – "Dhatrilouha" was used in the dose of 500mg. twice daily after food with luke warm water and revealed significant improvement both in subjective and objective parameters. No adverse consequences were observed in the liver and kidney functions during this study. The details will be reflected in the full paper. **[PA-1222]**

Keywords: Panduroga, Dhatrilouha, Iron Deficiency Anaemia, Intestinal parasites, Haemoglobin, Serum ferritin, Serum iron, Ojas, Seeta veerya, Rasayana, Agni, Prakriti

Establishing a symbiotic relationship between Ayurveda and ICT(Information Communication Technology)

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Ayurveda and IT are perhaps the best representations of India's tradition and modernity. Ayurveda is India's own system of medicine that has been practiced for more than 5,000 years. The World Health Organization reported in 2003, that 65% of India's rural population, which accounts for over two thirds of our total population, uses Ayurveda and herbal medicine for their primary health care. Yet the delivery system of Ayurveda in India is fraught with challenges. On the other hand, India has made rapid strides in Information Technology over the last decade. Today the IT industry accounts for more than 6% of the country's GDP, while providing employment to more than 2.3 million people either directly or indirectly, making it one of the biggest job creators in India and a mainstay of the national economy. Yet increasingly the health hazards associated with knowledge workers in the IT industry has been an area of concern as this has a direct impact on the productivity of the sector and the well being of India's youth. Over the last two decades, Santhigiri Ayurveda, supported by its research foundation has undertaken several initiatives to take traditional systems of medicine to people at the bottom of the pyramid. The Karunyam National Healthcare Programme is one such initiative that provides Ayurveda and Siddha medicines and treatment to the underprivileged. A major component of this programme, that has a vision to cover the whole of India, is the adoption of villages to make them disease free. This involves doing exhaustive surveys, issuing health cards, conducting medical camps, using mobile clinics and creating awareness on healthcare issues. Among its various other initiatives that includes operating medical colleges and hospitals focused on Ayurveda and Siddha, Santhigiri also runs programmes that propagate the cultivation of herbs and medicinal plants using innovative buy-back options for farmers, and runs campaigns for growing herbal gardens in schools and homes. Drawing from this extensive experience of Santhigiri in rural and urban India, we wish to highlight the need and the potential for a symbiotic relationship between Ayurveda and IT. ICT tools - 3G networks, satellite communications, database/records management, SAS hosting solutions for remote access - can be used to enhance the delivery of Ayurveda. In turn, Ayurveda, with its focus on preventive healthcare can provide innovative health solutions to the IT workforce. **[PA-1223]**

The Efficacy of Patent System on Ayurveda and Public Health, from Developing Countries' Perspective

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The integral link between Ayurveda and Traditional Knowledge(TK) associated with the medicinal plants cannot be overlooked from the fact that 60 % of people in developing countries depend on Traditional Medicine(TM).But the full exploitation of the potential of TK as a resource/technology cannot be achieved without a working compatibility between the two important international treaties Trade Related Aspects of Intellectual Property Rights(TRIPS) and Convention on Biological Diversity (CBD).While TRIPS considers TK in public domain,CBD treats it as a nation's property.TRIPS mandate on TK has allowed for misappropriation and patenting ofTK leading to a rise in price of such medicine in order to recoup the investment in research and development.Though the patent system in the herbal medicine sector is fraught with inconsistencies,the unparalleled growth in the plant-derived formulations for drugs and health-care products continues,which calls for a reassessment of the IP policy framework for medicinal plants in Ayurveda sector.Against this background,the paper seeks to evaluate the existing patent regime through a number of case studies and project reports. The methodology followed in this paper is a survey of the contemporary literature on these issues.The expected outcome of this paper is to suggest alternatives to the patent system for effective exploitation ofTK in Ayurveda,with a specifc reference to India. **[PA-1225]**

Effect of organic matters and PSB on the growth and productivity of Fenugreek (Trigonella foenum-graecum L.)

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Experiments were conducted for two consecutive years 2006-2007 and 2007-2009 in field conditions to study the effect of oil-seed cakes such as neem cake and castor cake, a botanical Calotropis procera and Phosphate solubilizing bacteria (PSB) singly and in various combinations on the growth and productivity of Trigonella plant. Growth parameters include fresh and dry weight (g), pollen fertility (%), number of pods per plant, root-nodule index (0-5), nitrate reductase activity (μ mole NO_2—h-1g 1), chlorophyll content (mg/g) and productivity was calculated in terms of N, P and K in plant (mg/kg) as well as in soil (kg/ha). Although all the parameters were significantly increased in these treatments, however the single application was comparatively less effective than combined applications. Among oil-seed cakes, neem cake was found better in promoting plant growth than castor cake followed by C. procera and PSB. Root-nodulation also shows a considerable increase in combined treatments. Maximum growth and productivity observed in the combined inoculation of neem cake, castor cake, C. procera and PSB as compared to other treatments including inorganic fertilizers and untreated one. **[PA-1226]**

Keywords: growth, organic matter, phosphate solubilizing bacteria, productivity, Trigonella

Mental Health and Ayurveda

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"Mana jite jaga jeet", is a common ancient Indian phrase which describes the importance of mastering mind. This phrase advocates that overpowering the mind is equal to conquering the whole universe. Being into the field of Psychiatry and Psycho counselling from more than twenty years and dealing with number of patients of all age groups like children, adolescents, adults, young people, elderly group, males and females and giving them Psychotherapy from Ayurvedic point of view, I would like to highlight here some of my patients of the working women group, their mental agony and incapability of handling the disasters of their life. Now the question arises, how do we take care of such patients from Ayurvedic point of view? Ayurvedic health care approach is the answer and not just pills. When we say health, as an Ayurvedist we should understand that we have to take care of complete wellness that is physical, mental, social and spiritual. **[PA-1227]**

Management of CRF in Unani Medicine

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Chronic renal failure (CRF) is a growing health hazard. There is a progressive loss of renal function through an abnormality low and deteriorating filtration rate. Basically kidneys play very important role in the excretion of waste product of the body. This excretory function is based on daily excertion of 1.5 litres. In CRF the Glomerulo-filtration rate (GFR) declines to a level as low as 30 ml./min. Initially rise in serum creatnine and urea in the only biochemical evidence. As the disease continues the GFR falls below 10 ml./min. In this paper a trial has been made to discuss the management of GFR, anorexia. Acidosis, nausea and vomiting and other related problems in Unani Medicine. **[PA-1228]**

UNIM-754, UNIM-755, UNIM-756 and UNIM-757 coded Unani formulations in the treatment of chronic stable angina (Muzmin Zubeh Sadariya: a clinical study)

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Ischemic Heart Disease continues to be an important cause of morbidity and mortality although its management has significantly improved during last decade. Inspite of large number of drugs and procedures available in conventional modern system of medicine lasting cure of ischemic heart disease remains a distant dream. Traditional systems of medicine in general and Unani System in particular offer a spectrum of herbo mineralozological drugs both for prevention and treatment of cardiac diseases including ischemic heart disease but clinical data in support of their efficacy is not available possibly because the practitioners of

these systems use not to document their successes in the manner as required for transfer of their knowledge to next generations. Keeping this in view and the fact that there is urgent need to search new, effective and safe therapies for the management of ischemic heart diseases several drugs combinations are being evaluated for their efficacy in the management of chronic stable angina in this institute. The present communication is based on a clinical study on 145 patients of chronic stable angina of either sex in age group of 30-70 years diagnosed on the basis of clinical symptoms supported with findings of tread mil test and treated with UNIM-754, UNIM-755, UNIM-756 and UNIM-757 coded Unani formulations for uninterrupted period of 90 days as under. UNIM-754 are tablets given for chewing in the dose of two tablets of 500 mg. each twice a day in the morning and evening on empty stomach. UNIM-755 is in the form of decoction given in the dose of 100 ml. in the morning on empty stomach. UNIM-756 has semi solid form given in the dose of 3 gm twice a day before meals. UNIM-757 in the form of capsule of 500 gm. Each given in the dose of one capsule twice a day after meals. In all patients complete Heamogram, Urine examination, Blood sugar (Fasting and post parandial), Blood Urea, serum creatinine, LFT, Serum electrolytes (Sodium and potassium) and Lipid profile was carried out before their entry into the trial and at the end of the treatment. Electrocardiogram, X-ray of the chest and cardiac stress test were also done as pre-treatment investigation and repeated on completion of the treatment. Clinical follow up was carried out on 31" days 61 days and at the end of the treatment. Assessment of treatment out come was based on absence/reduction of different clinical features and changes observed during tread mill test. The results suggest that these drugs are useful in the management of Chronic Stable Angina as indicated by relief in clinical features and positive findings in Tread Mill Test as there was attainment of peak work load and significant increase in exercise time. **[PA-1229]**

A study with systemic and topical Unani formulations in the treatment of Vitiligo

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Vitiligo, an idiopathic usually progressive cosmetic disfigurement results from depigmentation of skin and usually no age is exempted. Despite lack of serious medical connotations, this is one skin condition associated with tremendous social stigma, affecting 0.5-4% of the world population 4775 self reporting clinically diagnosed Vitiligo patients were treated and evaluated once in three months for 18 months in relation to their mode and rate of regimentation as follicular and perilesional in relation to the site and extension of lesions. The response was assessed in relation to different ages duration of disease, clinical involvement (Types of Vitiligo) as dematomal,mucosal, acrofacial vulgaris and non dermatomal. Patients were treated with UNIM-001+003 (coded) drugs for both systemic and topical use which were effective in repigmenting the depigmented macules. However, the therapeutic outcome was high in non dermatomal vitiligo which showed mean 64.05±23.13 and dermatomal vitiligo recorded 54.83± 21.81 mean percent repigmentation. Non dermatomal and dermatomal vitiligo had significantly responded than other types of vitiligo $p<0.001$. The treatment was equally effective in both extensive and non extensive depigmented macules. However, lesions on scalp, face, limbs and trunk have responded significantly than other sites. $P<0.05$. **[PA-1230]**

Therapeutic Efficacy of Unani Drug "Unim-105 In Iltehab-e-kabid (Infective Hepatitis)": a Statistical Review of a Double Blind Randomized Controlled Trial

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In the present paper a statistical review of the novelty of the coded drug UNIM-105 in the treatment of Iltehab-e-Kabid (Infective Hepatitis) is made in term of its cost effectiveness. The findings are based on a double blind controlled trial of coded drug UNIM-105 conducted at Regional Research Institute of Unani Medicine, Chennai on a sample size of 240 cases i.e. 120 in each group. The dug UNIM-105 was compared with a control drug Icterus - a herbal preparation showed significant therapeutic efficacy in subsiding different signs and symptoms and normalising the pathological and biochemical parameters within one-four weeks depending upon the chronicity of the disease. Acute and sub-acute toxicity studies conducted on this drug also revealed hepatoprotective properties of the drug. **[PA-1231]**

Unani Physician's approach to Geronotology

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According to Unani system of Medicine the life span of human being is divided in to four stages:- 1. Sin-e-Namu (Growing age), 2. Sine-e-Waqoof ((Homeostatic age), 3. Sine-e-Inhetat (Deteriorating age), 4. Sine-e-Shayookh (Old age). Sine-e-Namu is the growing age in which organs of the body continue to grow and increase in size and weight. It is up to 30 years of age. Badal ma yatahallal (Metabolism) is increased in this age. Anabolism (Badal) is more than Katabolism (Yatahallal). The temperament of this age is medium in hotness and elevated in moistness. Sin-e-Namu is again divided into 5 stages. 1. Sin-e-Taifooliyat (infant age) :- It is pre-walking age. The organs are soft and the child is not in a position to stand on. This stage is upto 2 years of age. 2. Sin-e-Saba :- In this Stage the organs of the body gradually harden and the child tries to stand on them. Teething also starts in this age. This stage is upto 7 years of age. 3. Sin-e-Taruroo :- This stage starts after the age of complete teething and proper walking and ends upto the age of 13 years. 4. Sin-e-Rehaq :- This stage starts after 13 years in which hair of face appear. This stage lasts up to 17 years of age. 5. Sin-e-Futa :- In this stage the growth of body organs continues and at the end of this stage the growth is almost complete. Among Unani Physicians there is a difference in opinion about the temperament of infants. A group of physicians believe that hotness in infants is upto extreme level because the quality of hunger and digestion in infants is best. They also believe that Hararat -e-Ghariziya in infants acquired from Mother is of best quality. Another group of physician believe that Hararat-e-Ghariziya of adults is

best in quality because they have more blood. They believe that the hotness in infants is not very high because they are phlegmatic in temperament as compared to adults. The digestive power of adults is best and of low quality in infants because they frequently suffer from vomiting and loose motion. Galen is of the view that the Hararat of infants and adults is similar. He believes that in infants the hotness is more in quantity and in adults it is more in quality. Details will be discussed in full length paper. **[PA-1232]**

Removal of Pranasta Shalya: a Bloodless Surgery (successful removal of 1.5 ft. Metallic wire from Urinary Bladder)

50Yrs. Old patient inserted 1.5 ft. (20 Inches) length and 5mm thick metallic wire through genitalia which was kinked twice in the bladder. Moto was poor patient's life saving ,non invasive Asyurvedic surgery. Used instruments. Hasta. Artery Forceps. Syringe. Aseptic precaution was taken. Lubricant - jatayadi tailam and jelly was put in the genitalia with the help of a syringe. Palpating the Shalya which was 1.5 ft. (20 Inches) length and 5mm thick making it straight with one hand in the urinary tract by palpation method and holding the other end with artery forceps and the wire was pulled slowly. Sushruta explained such type of Pranasta Shalya should be removed in pratiloma gati .The same procedure was followed. Pranasta Shalya was removed safely without any injury to bladder and urinary tract and no complication was found. **[PA-1233]**

Role of Raktamokshana in Manasroga Chikitsa

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According to Susruta 'shalya' means "Manahsharirabadhakarani Shalyani"1. In this shloka mana is kept in 1st position & shalyardha chikitsa is raktamokshana2. In many psychological diseases rakta is vitiated with mana. Many psychological factors are directly related to pitta & rakta. According to Vagbhatacharya pitta & rakta having "Asrayasrayeebhava". Susruta says rakta as 4th dosha & it's prakopa symptoms are same as pitta. e.g. 'Krodha' as a psychological factor which aggravates pitta (as achayapurvaka pitta prkopa) & it aggravates rakta too. Rakta dhatu having chief function "Jeevana" which is also hampered in some depressive disorders. Hence patient-history often reveals repeated suicidal attempts. So here raktashodhana is a possibility. Raktamokshana is indicated clearly in diseases like Umada & Apsmara. There is direct relation between 'tama' & 'rakta' which is one of the manasaroga & it's related with nidra. In some manasroga hetu is dushtavrana for bhutanupravesha (Agantu Unmada). Manasrogas are like gudha vyadhis. We can think about raktasara purusha & after raktamokshana "vishuddharakta purush lakshana" as- "Prasannavarnendriyamindriyarta nicchantamvyahatapaktruvegam | sukhanvitam pustibaloppannam.....||"3 in psychological diseases indriya functions are hampered. So raktamokshana can be a better choice. In the Dveshatmaka nidana having manasrogas can be cured with raktamokshana. **[PA-1234]**

Keywords: Manasroga, Rakta dushti, Raktamokshana.

Methodology and findings: Validation of the prescriptions of Govt. Ayurveda practitioners and community knowledge of LHT

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In the study across 18 states of India on "Status & role of AYUSH services and Local health Traditions under NRHM" a validation exercise using the classical texts of Ayurveda verified the scientificity of prescriptions by Ayurveda doctors, awareness of Medicinal Plants in the households, perceptions regarding medicinal properties of the food items, home remedies for mother and child care and many other health problems. The methodology used "pramanaas" (means of verification) for validating health related knowledge. The doctors were found to be largely prescribing Ayurvedic medicines supplied to them and used mixed terms and methods of diagnosis (largely Ayurveda and also of Allopathy). More than 75% of the community's knowledge was validated in all the states by these references. This process provided insights into the worldview, sources of knowledge and epistemology of Ayurveda. It highlighted the fact that the local health traditions are ecosystem and community specific yet they are closely allied to the codified system of Ayurveda, forming its folk roots. It explored the contemporary relevance of Ayurveda as a health science and its existence within the Indian community for meeting larger public health goals. **[PA-1235]**

Role of Yastimadhu Ghrita in minimizing the adverse effects of radiation-chemotherapy in cases of head and neck malignancies

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Cancer is an abnormal growth of cells. Cancer cells rapidly reproduce despite restriction of space, nutrients shared by other cells, or signals sent from the body to stop reproduction. The term head and neck cancer refers to a group of biologically similar cancers originating from the upper aero digestive tract, including the lip, oral cavity (mouth), nasal cavity, paranasal sinuses, pharynx, and larynx. Most head and neck cancers are squamous cell carcinomas, originating from the mucosal lining (epithelium) of these regions. The three main types of treatment for managing head and neck cancer are radiation therapy, surgery and chemotherapy. One of the adverse side effects of radio-chemotherapy is mucositis which makes eating difficult and cause loss of interest in food. Loss of appetite is usually followed by undesirable loss of weight by taking insufficient amount of calories every day but also intervenes the ongoing therapy which severely affects the efficacy of chemotherapy and radiotherapy. Although the adverse effects of radiotherapy and chemotherapy cannot be totally avoided but are sure shot adversary of these treatment procedure. Therefore here's an attempt in minimizing the radiation induced mucositis, skin reaction, xerostomia, change in voice etc with an Ayurvedic Ghrita preparation i.e. Yashtimadhu Ghrita by both sys-

temic and Yashtimadhu (Glycyrrhiza glabra) choorna by topical administration along with madhu (Honey). The present prospective study was conducted on 75 hisopathologically proved head & neck cancer patients, who attended the Radiotherapy Department of G.G. Hospital, M P Shah Medical College, Jamnagar. The study period extended from December 2008 to January 2010. It was observed that the intensity of radiation and chemotherapy induced mucositis was reduced to a great extent which was beneficial in two ways, that, there were no interruptions in the treatment and food intake was not severely affected leading to maintenance of the nutritional status of the patients. The hematological levels were maintained within normal limits and the drug was not nephrotoxic as well, which helped in timely administration of chemotherapy thereby preventing any delay in scheduled dosage. **[PA-1237]**

Keywords: Head & Neck cancer, Radiation therapy, Chemotherapy, Yashtimadhu, Mucositis.

Root Yield Potential of Brihatpanchmoola Species as Influenced by Plant Density and Organic Manuring

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Many of the manufacturing units of Ayurvedic drugs are experiencing the shortage of raw material for the plant products from species like Gmelina arborea, Oroxylum indicum, Aegle marmelos,Stereospermum suaveolens, Desmodium gagenticum, Clerodendrum multiflorum and Uraria picta, forming the brihatpanchmoola group of species. The supply of the raw material particularly to that of root based material from trees of brihatpanchmoola group is very-very meagre and hardly there is reliable data available which support supply scenario. This kind of short supply may lead to the use of either substitutes or in a very low quantity in the ayurvedic formulations and ultimately affect the efficacy of the formulations. Hence, there is an urgent need for an intervention to develop and conserve the resource base for brihatpanchmoola. In the context of development of the agrotechnologies of these species a field experiment is being carried out since June 2008 to study the root yield potential of brihatpanchmoola species(Gmelina arborea, Oroxylum indicum and Aegle marmelos,) as influenced by plant density and organic manuring. There were three plant densities (plant spacing) viz, 6,666(100 x 150 cm), 10,000(100 x 100 cm) and 20,000(100 x 50 cm) plant population per hectare and four levels of organic manuring (Farm yard manure) viz, 0.0,2.0,4.0 and 6.0 t per hectare. The observations on root length, root girth and root yield are being recorded up to 36 months plant age at an interval of 6 months period. The root length and girth of Gmelina arborea, Oroxylum indicum and Aegle marmelos was found to be increased rapidly to very rapidly during 12-18 months growth period. The maximum root length and girth after 12 and 18 months was recorded with lower plant density (6,666 trees ha-1). The dry root yield was also successively increased with advancement of the age. The dry root yield recorded after 18 months were also many folds more as compared to 12 months period and was in the range of 459 to 980 g plant-1(Gmelina arborea), 188.25 to 259.75 g plant-1 (Oroxylum indicum) and 74.20 to 149.45 g plant-1 (Aegle marmelos). Application of organic manuring (FYM) at various levels markedly influenced the root length, girth and root yield and the maximum values at 18 months growth period

were recorded with the application of 4-6 t FYM per hectare. The root samples of these tree species were phytochemically evaluated for total alkaloids content by standard methods of qualitative testing. It was noticed that root samples after 6 and 12 months growth period, none of the species reported positive results. However, the tests were observed positive after 18 months growth period. **[PA-1238]**

Effectof Dhatriloha in the Management of Pandu in Children w.s.r. to Iron Deficiency Anemia

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Pandu is a disease which is designated with Raktalpata and Panduta of body. It has similarity with that of Anemia in all aspects such as etiological factors, signs, symptoms and therapeutics. Iron deficiency anemia is currently the most widespread micronutrient deficiency affecting nearly 4.5 billion people globally i.e, around 1/3 of the whole population. About 70% of Indians are found to be anemic out of which, 95% of anemia is due to iron deficiency. Infants, preschool children and adolescents are at greatest risk of developing iron deficiency and its resultant anemia. Dhatriloha, familiar compound preparation of Loha and Amalaki are main ingredients. Amalaki being an Amla Rasa Pradhana can increase Rakta and also being a rich source of Vit.C helps in absorption of iron.This has revealed a wide range of action over the clinical manifestations of Pandu. Considering all these factors, a clinical study was conducted to evaluate the effect of Dhatriloha in the management of Pandu Roga with special reference to Iron deficiency anemia in children. 30 patients fulfilling the inclusion and exclusion criteria were selected to study from OPD and IPD of Kaumarabhritya department S.D.M.C.A & Hospital, Hassan. Symptoms were scored and statistically analyzed for any change before and after the study. It was found that Dhatriloha has effective response in hemoglobin concentration as well as in the sign & symptoms of Pandu Roga. In full paper the detail of study and results of the study are discussed in detail. **[PA-1239]**

Keywords: Pandu Roga, Iron deficiency animea, Hemoglobin, Dhatriloha.

Evaluation of Suitability of Medicinal Trees for Wasteland Management

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There is practically no scope in increasing the area under medicinal tree species in agriculture because of priority given to the other more essential and productive crops.

Therefore, there is only way to utilize the degraded/waste lands for cultivation of medicinal tree species as per their adaptability under varied soil types and agro-climatic conditions. Wasteland is the land, which is presently lying unutilized due to different constraints. It may comprise of culturable wastelands as well as unculturable wastelands, which due to neglect or due to degradation are not being utilized to their full potential. Wastelands pose problems during their use for the purpose of specific cultivation activities. There are several medicinal plant species having ability to grow well under abiotic stress conditions, particularly adverse soil conditions, without affecting their economic yield and medicinal value. Moreover, the water stress may have positive reactions in improving the quality of the produce through biosynthesis of secondary metabolites and these secondary metabolites may improve the drought resistance to plants. With this view in the present investigation 16 medicinal tree species were evaluated for their suitability in wasteland management. The experimental soils were marginal, mostly shallow to medium in depth, ranging from 15.00 to 50.00 cm, alkaline in soil reaction (pH range of 7.8 to 8.55). The bulk density was in the range of 1.18 to 1.25 Mg m-3 and the maximum water holding capacity was in the range of 30.18 to 46.86 %. On the basis of soil test values, the soils were having low to medium fertility status in respect of organic carbon (0.266-0.459 %) and available nitrogen and low in available phosphorus (14.36-17.51 Kg ha-1) and low to medium in available potassium content. In order to assess the over all suitability of medicinal tree species under shallow to medium depth soils, the suitability index was worked out. Among 16 medicinal tree species studied the highest suitability index (292.57) was recorded with Gmelina arborea (Gambhari) followed by 253.59 for Pongamia pinnata (Karanj) and 252.14 for Emblica officinalis (Amla). The least value of suitability index (127.57) was recorded for Carissa carondas (Karonda). **[PA-1240]**

Identification and Characterization of Two Novel Antimicrobial Compounds from Jasminum grandiflorum L.

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Jasminum grandiflorum L. is described in Ayurveda to treat several diseases such as ulcer, stomatilis, gingivitis and skin disease. Leaves are used to apply locally as in single or compound formulation in Leprosy (kushta roga- Skin disease). In the present study, extracts of Jasminum grandiflorum L. leaves in various solvents were screened for antimicrobial activity using micro broth dilution assay against microbial strains. Chloroform extract was found to display activity in the range of 1.56 to 25.0 mg/ml. In bio-assay four compounds of different Rf values exhibited specific antimicrobial activities. Compound having Rf value 0.21 exhibited activity against Klebisiellapneumoniae and Staphylococcus aureus. Compounds at Rf value 0.50, 0.63, 0.79 and 0.87 exhibited specific activities against Escherichia coli and Salmonella typhirespectively. Bioassay- guided fractionation of chloroform extract leads to identification of two new antimicrobial compounds namely 3,5-Dihydroxy-2,4-dimethyl-hexanoic acid 4-hydroxy-phenyl ester (JHF-1) and 2-Hydroxymethyl-3-methyl-butric acid phenyl ester (JHF-2) at Rf values 0.214 and 0.50, respectively. Study revealed the importance of use of plants extract over individual isolated compounds. Furthermore,

the study of mechanism of action of these compounds may lead toward the identification of specific bacterial targets. **[PA-1241]**

Keywords: Jasminum grandiflorum L., Antimicrobial, 3,5-Dihydroxy-2,4-dimethyl-hexanoic acid 4-hydroxy-phenyl ester, 2-Hydroxymethyl-3-methyl-butric acid phenyl ester.

Gray Nickerbeans: Antimicrobial activities of Caesalpinia bonduc (Linn.) Roxb.

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Caesalpinia bonduc (Linn.) Roxb. (Caesalpiniace) is a well known medicinal plant, widely distributed in tropical and subtropical regions of the World and having well reported in vitro as well as in vivo antimicrobial activities. Its seed kernels are used in the management of diabetes mellitus, in the folklore medicine. Its seeds are also used as anthelmintic, antipyretic, anti-inflammatory and antimalarial agent. C. bonduc in combination with some other herbs is used for the treatment of various tumors, liver disorders, inflammation and cystic fibrosis. In ancient Ayurvedic system of medicine, plant was mentioned to possess anti-tumor and anti-pyretic activities. A number of chemical constituents i.e. flavonoids, triterpenoids and steroids have been reported from the seeds of the plant which possesses various kinds of activities. This chapter is an attempt to provide updated information on various aspects viz., uses in traditional systems of medicine, chemical constituents, organ wise scientific descriptive details, mode of propagation, antimicrobial and pharmacological evaluation and its adverse effect in humans. **[PA-1242]**

Keywords: Caesalpinia bonduc, Seeds, Ayurveda, Gray Nicker Beans, Antimicrobial.

Identification and Characterization of Two Novel Antimicrobial Compounds from Jasminum grandiflorum L.

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Jasminum grandiflorum L. is described in Ayurveda to treat several diseases such as ulcer, stomatilis, gingivitis and skin disease. Leaves are used to apply locally as in single or compound formulation in Leprosy (kushta roga- Skin disease). In the present study, extracts of Jasminum grandiflorum L. leaves in various solvents were screened for antimicrobial activity using micro broth dilution assay against microbial strains. Chloroform extract was found to display activity in the range of 1.56 to 25.0 mg/ml. In bio-assay four compounds of different Rf values exhibited specific antimicrobial activities. Compound having Rf value 0.21 exhibited activity against Klebisiella pneumoniae and Staphylococcus aureus. Compounds at Rf value 0.50, 0.63, 0.79 and 0.87 exhibited specific activities against Escherichia

coli and Salmonella typhi respectively. Bioassay- guided fractionation of chloroform extract leads to identification of two new antimicrobial compounds namely 3,5-Dihydroxy-2,4-dimethyl-hexanoic acid 4-hydroxy-phenyl ester (JHF-1) and 2-Hydroxymethyl-3-methyl-butric acid phenyl ester (JHF-2) at Rf values 0.214 and 0.50, respectively. Study revealed the importance of use of plants extract over individual isolated compounds. Furthermore, the study of mechanism of action of these compounds may lead toward the identification of specific bacterial targets. **[PA-1243]**

Keywords: Jasminum grandiflorum L., Antimicrobial, 3,5-Dihydroxy-2,4-dimethyl-hexanoic acid 4-hydroxy-phenyl ester, 2-Hydroxymethyl-3-methyl-butric acid phenyl ester.

Life Style Diseases and Ayurvedha

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In view of ayurveda; indulgence in faulty life style creates a no of diseases where along with the medical interventions; modifications in life style, dietary stuffs & habits plays important role in reversing the diseases process. The diseases can be Osteo-arthritis, Spondylitis, Slip-disc, Osteoporosis, Obesity, Hyperlipidemia, Coronary Artery Disease, Hypertension, Paralysis, Diabetes, diabetic- retinopathy, diabetic -nephropathy, diabetic- neuropathy, Fatty liver disease, non-alcoholic fatty liver disease & alcoholic fatty liver disease, Cancer, Infertility, Impotency, Psychological disorders, Migraine, Sinusitis, Asthma. The enormous complexity of human body offers scope to conceptualize its dynamic organization in a number of ways such as structural, biochemical, functional, etc. The conventional western medicine views the body from a structural perspective, whereas ayurveda, the ancient medical system of India, understands the human body from the perspective of functions/tridoshas (vata, pitta and kapha). These different viewpoints of ayurveda and western medicine have resulted not only in the use of different terminologies and metaphors to explain the human system but also in their different approaches to health and illness. **[PA-1244]**

Keywords: Ayurveda, lifestyle diseases, tridoshas, health.

Diet And Dietetics In Ayurvedha -promotion Of Positive Health And Prevention Of Diseases

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Ayurveda, the holistic medical science of India described several types of foods and food intake principles, which certainly have major role on not only in health promotion but also in the prevention of diseases. Ayurveda advises methods for protection of health and to alleviate disorders in the diseased through ahara, vihara and aushadhi. Food is vital for survival of living things and body is the product of food, its proper utility determines the quantity and quality of life. Maharsi Charaka who is the principal exponent of the medical system has given prime importance saying that the food and drink act as fuel, in the process

of metabolism. Vital process is sustained when metabolism is fed by that fuel. Proper dietary nourishes all the bodily elements, improves complexion and enlivens the senses. On the other hand improper dietary provokes disease. There is lot of information on diet in non-medical ancient literatures. It carries material on hygiene and diet under the pretext of some religious vows, practices or rites. Ayurveda plays an important role with its holistic perspective, different approach to health, and disease and emphasis on diet and lifestyle activities. Its experience and expertise accumulated over several millennia should be used to benefit suffering people. **[PA-1245]**

Keywords: Ayurvedha, diet, ancient literature, diseases.

ABSTRACT

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In the present study, a polyherbal preparation Diabegon, containing 18 plant extracts with hypoglycemic activity, was evaluated for its preventive effect in type 2 diabetes mellitus in (N=14) With an oral administration of 4 gm/day Diabegon, the effects on fasting blood sugar, post prandial blood sugar, triglycerides, total Cholesterol, HDL-Cholesterol, LDL-Cholesterol and VLDL-cholesterol after 30, and 90, days of treatment was scrutinized. While 30 days therapy showed improvement in fasting blood sugar, post prandial blood sugar. After 90 days therapy Total Cholesterol and LDL level showed significant change. The Diabegon therapy in (N=36) for duration of 1 Month to 6 month results showed improvement in fasting blood sugar, post prandial blood sugar. The mechanism of action by which Diabegon attenuates insulin resistance and dyslipidemia may be through induction of peroxisome proliferator-activated receptor-γ and lipoprotein lipase activity in peripheral tissues (muscles). Moreover, Diabegon administration for 56 days also produced no alteration in liver and kidney function tests, which seems to indicate its non-toxicity during treatment. Our present results suggest that Diabegon may be included in diabetes mellitus treatment regimens, as a drug with good antidiabetic actions but no toxic manifestations. **[PA-1246]**

Level of Evidence in Clinical Resaerch in Ayurveda

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In the last two decades there has been renewed interest in Traditional Systems of Medicine globally. Ayurveda-the science of life is one of the world's oldest medical systems which integrally incorporates the concepts of health and disease and aims at achieving homeostasis of the body, mind, and spirit- referred to as the holistic approach. The objective of Ayurveda is to help preventing illness and cure the disease" स्वस्थस्य स्वास्थ्यरक्षणं आतुरस्य विकारप्रशमनम्.|"

The science of Ayurveda is based on sound principles of its philosophy and not on mysticism, magic and anecdotes. Ayurveda is based on its unique principles of health and

disease. The theories of Ayurveda (Siddhanta) were established by many ancient sages after rigorous testing in several ways and proving the same with reasoning.

सद्धिान्तो नाम स यः परीक्षकैर्बहुवधिं परीक्ष्य हेतुभश्चि साधयत्विा स्थाप्यते नर्णियः|
{Cha. Vi. 8/37}.

The levels of evidence of research "प्रमाण" in Ayurveda have been grouped into five viz: Direct Observation (प्रत्यक्ष), Indirect inference (अनुमान), Analogy (उपमान), Opinion by eminent experts-enlightened people (आप्तोपदेश) and Logical inference (युक्त)ि |

The fundamental concepts of Ayurveda refer to universal interconnectedness, the body's constitution (prakriti), and life forces (doshas). An imbalance of a doshas viz: Vata, Pitta and Kapha will produce symptoms that are unique to that dosha. Imbalances in the homeostasis of the doshas is mainly caused by inappropriate diet and lifestyle (मथि्या आहार वहिार), stressors of various kinds-internal or external (असात्म्येन्द्रयिार्थसंयोग) and deliberate indulgence in unhealthy habits (प्रज्ञापराध). Ayurvedic treatments are tailored to each person's constitution and require changes in medications, diet and lifestyle. Ayurvedic treatment goals include eliminating impurities (Panchakarma), reducing symptoms (herbal / herbo-mineral preparations, Dietary / Lifestyle modifications), increasing resistance to disease (Rasayana, yoga), and increasing harmony in the patient's life.

The present era is an age of Evidence-based medicine (EBM). The EBM or evidence-based practice (EBP) aims to apply the best available evidence gained from the scientific method to clinical decision making. It seeks to assess the strength of evidence of the risks and benefits of treatments (including lack of treatment) and diagnostic tests. Evidence quality can range from meta-analyses and systematic reviews of double-blind, placebo-controlled clinical trials at the top end, down to conventional wisdom at the bottom.

Level	Type of evidence
Ia	Evidence obtained from meta-analysis of randomized controlled trials
Ib	Evidence obtained from at least one randomized controlled trial
IIa	Evidence obtained from at least one well-designed controlled study without randomization
IIb	Evidence obtained from at least one other type of well-designed quasi-experimental study
III	Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case control studies
IV	Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities

(General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine-WHO)

Science evolves through a rigorous and continuous research, Ayurveda, the ancient Indian system of health care and longevity needs to be validated on modern scientific research methodology taking care not to compromise with its basic tenets and philosophy. A full system validation would be the right approach in this direction.

Most clinical trials of Ayurvedic approaches have been small, had problems with research designs, lacked appropriate control groups, or had other issues that affected how meaningful the results were. A thorough review of the current database of Cochrane, PubMed and the IndMED shows a meager number of clinical trials in Ayurveda and the number becomes almost negligible when it comes to Randomized Controlled trials and Meta analysis in Ayurveda.

Keyword --> Ayurveda RCT and Ayurveda Meta analysis and Ayurveda

Cochrane	4	Nil	Nil
Pubmed	558	1 (curcuminoids in oral lichen planus)	1 (Rheumatoid arthritis)
IndMED	63	Nil	Nil

The experts of clinical research regard the meticulously conducted multicentric Double Blind / Masked Randomized Controlled Clinical Trials (sometimes triple blind) as the gold standards of clinical research wrt research in pharmaceuticals. This is required to ensure the safety and efficacy of the new molecules. Although, Ayurveda has undergone and survived the rigorous test of time and the safety / efficacy and dependability of Ayurvedic formulations / interventions is well established, yet it is pertinent to prove the clinical efficacy and safety of these curative / preventive modalities by validating them on currently accepted modern research methodology. The Central Council for Research in Ayurvedic Sciences (CCRAS) is formulating a strategy in this direction aiming to conduct some high impact RCTs in a few select areas by organizing brainstorming sessions with eminent experts of Ayurveda and other systems of medicine. Though, this is aimed at level-I evidence in modern parlance, the bottom line would be strictly adhering to the fundamentals of Ayurveda. **[PA-1247]**

SWARNAMRITA PRASHANA: a Success Story at SDM College of Ayurveda and Hospital, Hassan, Karnataka

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Children are tomorrow's citizen. Promotion of their health is of utmost importance to ensure better prospects of nation. Children are among vulnerable community owing to low immunity with risk of infection and allergies. Nuclear family system, busy professional life and competition in present educational system are also contributing a lot to stress related problems in children. Thus promotion of overall health and intelligence in children is the need of hour. Lehana or Prashana (licking of Suvarna with honey and Ghee) is one such classical procedure specially mentioned for children with the aim to boost their immunity and overall health including higher mental faculties. SDM College of Ayurveda & Hospital, Hassan, Karnataka is successfully conducting Swarnamrita Prashana programme since May, 2009 on every Pushya Nakshatra day. We have received tremendous response from society with huge turnover on every month. This presentation will elaborate the details of the story behind the management of this successful programme. [PA-1248]

An Observational Study on the Effect of Mahatiktaka Ghrita along with Nalpamaradi Taila Lepa in Charmadala (Atopic Dermatitis)

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Charmadala is one among the Kushtha Roga. It is frequently seen in children during Ksheerada and Ksheerannada Avastha (birth to 3 years). Pathogenesis of Charmadala involves vitiation of Rasa, Rakta, Mamsa & Ambu by Vatapradhana Tridosha. Charmadala shows a set symptomatology which can be correlated with atopic dermatitis. Atopic dermatitis is a common dermatological condition, occurring in up to 18% of children. The incidence has increased twofold to threefold since last three decades. So the present study is a search for finding safe and effective treatment of Charmadala. Looking into the properties of Mahatiktaka Ghrita and Nalpamaradi Taila, most of the ingredients are having Kushthahara property. Hence the drugs are selected for study. An observational study conducted at the S.D.M.Colloge of Ayurveda Hassan, from the Dept of Kaumarabhritya to elicit the effect of Mahatiktaka Ghrita along with the Nalpamaradi Taila lepa in Charmadala w s r to atopic dermatitis, on 30 pts of age between 6 months to 6 years. Details of the clinical study will be presented during seminar. **[PA-1249]**

Keywords: Charmadala, Mahatiktaka Ghrita, Nalpamaradi Taila, Lepa, atopic dermatitis, Children.

A Study on Ethnomedicine of Monpa tribe of Dirang circle, Arunachal Pradesh, India

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The state of Arunachal Pradesh (83,743Km2) falls within eastern Himalayan bio-diversity hotspot (Myers et al., 2000). The state has a wide altitudal range (100-7090m). This state is the important pocket of many medicinal herbal wealth. The tribal people of this region are very poor and rely on agricultural and animal husbandry practices for their livelihood. They live in a harsh climatic condition in these hilly areas with no proper communication facilities. They have been using traditionally locally available medicinal plants since decades to treat their health ailments. A survey was conducted in Dirang circle of Arunachal Pradesh to enumerate medicinal plants used by the tribal people in this locality. The main tribe of this locality is Monpa, a mongoloid Buddhist tribe. The study reveals fifteen (15) species of medicinal plants most commonly used by the tribal people. **[PA-1250]**

Diagnosis & Treatment of Chronic Renal Failure in Ayurveda

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Introduction: Chronic kidney disease (CKD) also known as Chronic Renal Failure (CRF) is a disease which increases the morbidity of the patient to a great extent and has a very high mortality rate. Increasing number of patients are being diagnosed as having Chronic kidney disease. It is particularly alarming because the therapy required for maintenance of life is quite expensive and life-long. This disease has no cure in the conventional medicine. Such patients turn towards Ayurvedic practitioners with a hope for cure. The important question is what Ayurvedic Physicians can do for such patients, can we treat them, and can we cure them? To what extent can we offer relief? Has Ayurveda described CKD? If yes, where? Ayurveda as a medical science should gear up to address such issues. An extensive research of Ayurvedic literature and elaborate scientific study supplemented with evidence based case studies is extremely essential to establish the role of Ayurvedic medicine in critical cases like these. Present study is an initiative in this direction. **[PA-1250]**

Keywords: Chronic kidney disease, Chronic renal failure, Ayurveda, nomenclature of kidney disease, Mutrajathar, Mutraghat,

In vitro propagation of Important Medicinal Plants (R.E.T. and Dashmula) through Tissue Culture Techniques

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Present research work, deals with the rapid In vitro propagation of Important Medicinal Plants, reported as Rare, Endangered & Threatened {R.E.T}, and Dashmula plants, through Tissue Culture Techniques. Under these studies, the plants, such as, Operculina turpethum, Rubia cordifolia, Cissampelos parrera, Clerodendrum serratum, Oroxylum indicum and Uraria picta etc. were selected. In vitro propagation protocols were standardized & developed at this Institute. The Murashige & Skoog's media methodology for Plant Tissue Culture have been followed. For determination of results, in respect of multiple shoot formation, callus, rooting, hardening stages etc. were observed and schematically illustrated. Different compositions of various media for comparative studies have also been carried out. Best results were observed in respect of shootings developed through Nodal sector cultures. **[PA-1253]**

A Modified Application of Ksharasutra in the Management of Gudabhransa (Prolapse Rectum)

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Gudabhransa (Prolapse of Rectum) is mentioned in the Sushruta Nidan-13th chapter and Chikitsha-20th chapter under kshudraroga. Sushruta,the father of ancient Indian surgery advocated Snehan karma (oil prepared from milk and vata-allaying drugs) , fomentation and thereafter application of gophana bandage made of leather with a hole in the middle (for the passage of flatus) . As per modern text Gudabhransa(Prolapse rectum) can be classified in to two i.e.,partial prolapse (protrusion of Mucous membrane) and complete prolapse(Protrusion of whole thickness of the rectal wall). Violent straining & chronic dysentery causes mucosal prolapse of the rectum through the anus. Complete prolapse or Procidentia is a condition in which whole thickness of the rectal wall protrudes through the anus due to laxity of the pelvic floor, excessively deep rectovesical or rectouterine pouch and inadequate fixation of the rectum in its presacral bed. It is oftenly seen in infants due to undeveloped sacral curve and in children due to an attack of diarrhea , chronic dysentery ,whooping cough or from loss of weight and consequent diminution in the amount of fat in the Ischiorectal fossa. In adults the condition is oftenly associated with third degree haemorrhoids or a complete prolapse. In female a torn perineum predisposes to prolapse and in the male straining from urethral obstruction. In old age both partial and complete prolapse are due to atony of the sphincter mechanism. Management is advocated in modern system by means of surgical approach i.e., Thiresch's operation,Well's operation, Ripstein's operation, Lahaut's operation and Rectopexy or sometime by surgical excision of the some parts of the rectum. Selection of the operation is done as per casautive factor and status of the patient. In case of malnutrition dietic adjustments is also advised. But this surgical management is more cost effective and some time it is not advocated seeing the poor status of the patient.As it is known to all that the Ksharasutra application in the field of Anorectalogy (piles,&fistula.in.ano) is proved to be more worthy enough and it is incomparable to the existing available therapeutics. For this disease a modified technique is developed for combating this disease. This paper will narrate details the application of ksharasutra therapy for (Gudabhransa) prolapse rectum. **[PA-1254]**

Availability of Medicinal Plants in Assam and their Sustainable Utilization in the State

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Assam is rich treasure house of medicinal plants. The forest dwellers and forest fringe villagers are collecting medicinal plants for their domestic use and also have been selling the medicinal plants collected from the forest in local markets. There are more than 350 species of medicinal plants reported from Assam, and there may be many more whose medicinal values have not yet been explored. Medicinal plants not only cure our ailments but can also be a very important source of economic development. The demand for medicinal

plants is increasing, as people are day by day more fascinated towards herbal medicine. In view of the richness of medicinal and herbal plants in the State, a mechanism should be developed for in-situ and ex-situ conservation, domestication and sustainable harvesting with active association of local people, including traditional healers and local Bej/ Baidyas to give due importance to the traditional systems of medicine of Assam. This paper deals with gathering information regarding the availability of medicinal plants and their uses by the different tribes/communities in the state. Most of the species are being used against jaundice, diarrhea, dysentery, cough, malarial fever, skin diseases, sexual diseases etc. **[PA-1255]**

Macroscopic Diagnostic Characters Of Bhumyamalaki. A Novel Herbal Hepato Protective Drug

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In recent times Bhumyamalaki has attracted lot of attention by researchers and it was observed that various Phyllanthus species like P. amarus schum & Thonn. P. fraternus web. P. maderaspatensis Linn. P. simplex Retz. P. urinaria Linn. are being termed as Bhumyamalaki. It was noticed that in most of the indian herbal formulation in place of P.niruri a mixture of other Phyllanthus species are being used it is mainly due to the similarity in appearance at crude drug level. It is widely known that all the species of Phyllanthus do not possess the hepato-protective property. Present study enumerates macroscopic diagnostic characters of different species of Phyllanthus used as Bhumyamalkai. **[PA-1256]**

Observational Study on Management of Post Fever Complications of Chickunguniya with Selected Ayurvedic Formulations

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Chikungunya is a virus disease caused by Alpha virus, which belongs to the family of Togaviridae. The incubation period of Chikungunya disease is from two to five days. Symptoms of the disease include a fever up to 40 °C (104 °F), a petechial or maculopapular rash of the trunk and occasionally the limbs, and arthralgia or arthritis affecting multiple joints. The other nonspecific symptoms can include headache, conjunctival infection, and slight photophobia. Typically, the fever lasts for two days and then the joint pain and swelling will be persisting for long period. An observational study on the Ayurvedic management for Chikungunya was carried out at OPD level in National Research Institute for Pancha-

karma with selected medicines. Total 227 patients were enrolled in the study out of which 119 cases were in Group I and 108 cases in Group II. In this, 55 patients in Group I and 42 patients in Group II were successfully completed the study by undergoing periodical assessment. Group I was given Indukantha kashaya, Sudarshana tablet and Arogyavardhini vati and Group II was given Rasnasaptaka kashaya, Vettumaran Gutika and Kottamchukkadi Lepa for a period of one month. The clinical parameters, fever, joint pain and swelling, headache, skin rashes, general weakness and other routine biochemical parameters including Hemoglobin, Erythrocyte Sedimentation Rate, and Immunoglobulin M were evaluated before and after the treatment. The present study evidenced that there was a significant decrease ($p < 0.0001$) in joint pain, joint swelling, headache, skin rashes and general weakness in both groups. The decreased levels of hemoglobin, Immunoglobulin M and ESR were observed in both the groups but they were not statistically significant. So, the present study concluded that improvement in all the parameters in both the treatment groups which proved the efficacy of the selected Ayurvedic formulation in the management of Chikungunya. However, the study has to be carried out in large sample size with advanced tests for further validation of treatment. **[PA-1256]**

Keywords: Chickungunya, Arthralgia, Ayurveda management

Advocacy of Ayurveda in Epidemic Diseases

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Modern transportation allows people, animals, plants and the pathogens to travel more easily than ever before. Because of this global interconnectedness through transportation, tourism and trade, infectious diseases emerge more frequently and when infectious diseases are spreading through human populations across a large region or even worldwide then it is known as epidemic. The reference of micro-organisms is available in the oldest manuscripts of Ayurveda and Vedas as well. In Atharva Veda, plenty of references are available regarding microbes and infectious diseases. Even with the availability of powerful antibiotics, epidemics are unmanageable and preventive measures like limitation of spread by isolation and strengthening the immune system are key points. In this context various techniques have been described in Ayurvedic classics for prevention at environmental level as well as at individual level. Ayurveda also offers some potential single and compound herbal preparations for the management of epidemic diseases such as recent outbreak of Swineflu. **[PA-1258]**

Phytobiophysics a New Approach to Support Autism

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Introduction: According to the data by Centers of Disease Control and Prevention (CDC's) and Autism and Developmental Disabilities Monitoring (ADDM) Network in 2007, 1 in 150 8-year-old children in the United States is Autistic. The statistics in UK are now reported to be 1 in 100 children[1]. This trend is by no means specific to USA and UK as these statistics correlate with figures emerging from all other countries in the world. **Methodology:** Phytobiophysics is healing system utilizes the infinite natural resources from the energy aspect of flowers and plants to redress humanitarian Imbalances on all levels of consciousness. It is a synthesis of various ancient wisdoms from the East and the West in combination with the modern scientific knowledge. Phytobiophysics, is a branch of vibrational therapy which uses the vibrational aspect of the flowers and plants to support and restore balance in us in all level of being. The word "Phyto" means plants; "bio" means biology or life, "physics" means studies of energy. Phytobiophysics has been defined as "utilization of the infinite energy of flowers and plants to redress imbalance on all level of consciousness: spiritual, mental, emotional and physical". Over the years, the Institute of Phytobiophysics has successfully supported many Autistic children, the mothers and the entire family. The first project has gone far to a Mongolia Orphanage to teach the caretakers and the teachers how to carry out this healing system. A set of powerful essences were brought along to help the children and have yielded many success. The concept is not new, it is timelessly old, flowers bath was used in many ancient culture like Chinese, Indian, ancient Egyptians, Malays and many more to either release negative emotions or to keep young. With research conducted by the Institute in special kids, it has been demonstrated that the energy level of these kids are un-synchronized. Often we found that the energy disturbance has seriously affects the physical part of the body which in the case of the special kids, these energy disturbances has affect their brain area. **Statistic on Autism**: According to the data by CDC's and ADDM Network in 2007, 1 in 150 8-year-old children in the USA is Autistic. The statistics in UK are now reported to be 1 in 100 children. This trend is by no means specific to USA and UK as these statistics correlate with figures emerging from all other countries. **Conclusion**: It is the aim and the mission of the Institute to take this healing philosophy to wherever there is a need to support and help the children. **[PA-63]**

The Healing Philosophy Of Medical Qigong For Cancer Treatment

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Introduction: Health, wealth and happiness are everybody's dream; particularly in staying young and having long life. People all over the world have developed various ways and beliefs such as aerobic, yoga, qigong, etc to keep healthy. India is well known for its Yoga, in China, Qigong is well known. When we take a closer look at these systems, we will be able to observe similarities in each and every of these systems i.e. energy, which is known as Prana in India and Qi in China. Qigong is a form of special exercises originating from China; it has gained popularity in the West, especially Medical Qigong in recent years. Qigong exercises are intended to help enhance and move energy (Qi) throughout the body in specified ways. The practice of Qigong is a system of exercises and meditation that includes postures, special movement, breathing

techniques, specific forms of meditation, visualization, healing sounds and self-massage. Qigong is meant for beginners as well as advanced practitioners and focuses primarily on enhancing, circulating and balancing energy. In the Traditional Chinese Medicine way of thinking, if essence cannot flow, energy becomes stagnant. The practice of Qigong is to guide and gather an individual's Qi by specific way of movement, breathing, visualization and/or sound, to enhance and balance energy for the purpose of prevention against disease and physical degeneration. On another level, the therapeutic effects of gathering energy and guiding it throughout the body to dispel negative Qi and re-balance the system will trigger the 'self-healing' ability resides in each individual. Qigong is estimated to have begun some 5000 years ago. The people then, through experience, know that using natural way one can keep healthy and heal ailments. The natural ways are in the form of movement, breathing, visualization and sound.

Vijnana Bharati (VIBHA)

Vijnana Bharati or VIBHA is a national movement dedicated to the integrated development of Bharat through the intervention of science, engineering, and technology. Launched in 1991 by a group of thinkers and scientists, VIBHA has, today, 21 active units spread across the country and a few overseas units as well. Eminent scientists, academicians, policy makers, and social workers are the torch bearers of this movement.

VIBHA takes the spirit of 'Swadeshi' along with the ethos of our culture. It emphasizes that science and spirituality should go hand in hand. VIBHA works towards rural development, technology transfer, and social empowerment so as to bring the fruits of advancement of science and technology for the benefit of the society. It has received two national awards for popularizing science and technology: one in 2005/06 from Dr Manmohan Singh, Hon'ble Prime Minister of India, and the other in 2006 from Mr Kapil Sibal, Hon'ble Minister for Science and Technology, Government of India.

VIBHA works towards national self-reliance and a developed India. Towards this mission, VIBHA adopts, adapts, and assimilates the best from everywhere and associates with the best of universities, R&D organizations, and other movements.

Department of AYUSH, Ministry of Health and Family Welfare, Government of India

Created in 1995 as the Department of Indian Systems of Medicine and Homoeopathy, it was renamed as Department of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy) in November 2003. The Department focuses on upgrading AYUSH educational standards, implementing quality control and drug standardization, improving the availability of medicinal plant material, aiding research and development and generating awareness about the efficacy of the systems, within the country and overseas. Its declared objectives are as follows.

- Upgrade the educational standards in the Indian systems of medicine and in homoeopathy colleges in the country.
- Strengthen existing research institutions and ensure a time-bound research programme on identified diseases for which these systems have an effective treatment.
- Draw up schemes for promotion, cultivation and regeneration of medicinal plants used in these systems.
- Evolve pharmacopoeial standards for Indian systems of medicine and homoeopathic drugs.

ASSOCIATES

Central Council of Indian Medicine, New Delhi

National Medicinal Plants Board, New Delhi

Central Council for Research in Ayurveda and Siddha

National Institute of Mental Health and Neuro Sciences, Bengaluru

Indian Council of Forestry Research and Education, Dehra Dun

THE ART OF LIVIN

FRLHT

Foundation for Revitalisation of Local Health Tradition, Bengaluru

National Institute of Ayurveda, Jaipur

Gujarat Ayurved University, Jamnagar

Faculty of Ayurveda, IMS, Banaras Hindu University, Banaras

Rashtriya Ayurveda Vidyapeeth, New Delhi

SVYASA University

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